

27 November 2022

Cathy Yanni, Bankruptcy Trustee
Camp Fire, Fire Victim Trust
Two Embarcadero Center, Suite 1500,
San Francisco, CA 94111

Cc.

Judge Dennis Montalli
Courtroom 17
United States Bankruptcy Court
Northern District of California
450 Golden Gate Ave.
Mailbox 36099
San Francisco, California , 94102

FROM:

David Edward Martin
3108 Aloha Lane
Chico, California 95973
CLAIMANT ID: 1045539



SUBJECT:

BANKRUPTCY CLAIMS OF CHICO RESIDENTS FOR TOXIC ENVIRONMENTAL
CONTAMINATION OF PERSONS AND PROPERTY FROM THE CAMP FIRE.

This is a followup to my 6 September, 2022 report which I sent via email to the victims trust. I have attached another copy to this report.

It is clear that the Victims trust and BROWNGREER PLC is intentionally ignoring, demeaning and disregarding the damages done to Chico residents as caused by P G and E and their criminal behavior in causing the Camp Fire. BROWNGREER PLC is acting as the Bankruptcy Judge in their administering claims and discounting the Chico victims.

More recent P G and E fires are being met with the civil litigation that Chico residents would have filed against P G and E for toxic environmental contamination of person and

property caused by the two weeks of smoke and ash from the Camp Fire. P G and E have used Bankruptcy to evade their responsibility.

Cancer rates were already high in Chico and this contamination will only result in a further increase. There is no question that Chico is contaminated with carcinogens. The Dangerous air lead levels were confirmed by the California Air resources board in their report (see attached). The ground contamination from smoke and ash has been ignored. Chico properties were covered in smoke residue and ash during the Camp Fire. The ash and smoke disappeared after it rained. It disappeared into the ground and properties in Chico. This is not an EPA clean up. It remains in the ground and covering and attached to property.

These toxins continue to reexpose Chico residents. A significant problem being ignored by the Fire Victims Trust is the fact that these legacy toxins cover the soil and other features of the Chico Schools. This is causing repeat exposure to young children with developing minds. If you take into account the lead levels in the air in the CARB report you can easily see that the ground ash is simply disabling children attending Chico schools on a continual basis. It also continues to recontaminate and expose all Chico residents from their own properties, City of Chico Parks and their 200 owned Chico Properties, County Properties, State properties and Federal properties.

THERE IS A CRIMINAL COVER UP IN THIS MATTER.

P G and E lost property in the Camp Fire. They are required to notify Butte County and other state residents of what their equipment contained that would cause cancer under prop 65. In addition, Paradise city, Butte County and State and Federal property that burned in the Camp Fire require notice under prop 65. None of this has been done and the exposure is being intentionally covered up. Exposure continues.

I suspect this matter would lead to Fort Lejeune type legacy lawsuit were it not for the cover up and P G and E being provided bankruptcy protection and the Fire Victims trust ignoring the toxic elephant in the room.

THE BANKRUPTCY TRUST IS ILLEGALLY ACTING AS THE BANKRUPTCY JUDGE IN THIS MATTER.

The Bankruptcy Trust has determined that any claim outside the fire burn area is a mere nuisance claim, yet this is not how bankruptcy works.

P G and E filed a Chapter 11 Bankruptcy. A Chapter 11 Bankruptcy is for the purpose of: "This chapter of the Bankruptcy Code generally provides for reorganization, usually involving a corporation or partnership. A chapter 11 debtor usually proposes a plan of reorganization to keep its business alive and pay creditors over time.

P G and E's Bankruptcy was to make whole the injury and damage done to all citizens affected by the Camp Fire. Chico citizens would have very significant damages against P G and E in lawsuit for their malice in causing the Camp Fire. The Chapter 11 Bankruptcy protects P G and E from these lawsuits. So, Chico citizens should have the same rights in Bankruptcy as any other claimant whose health and property were damaged by P G and E's malice. This is not the case, however, since the Victims Trust considers the health injuries and legacy environmental contamination of Chico "children of a lesser God". The victims Trust have declared that the environmental contamination of Chico is a mere nuisance. There are reports of high aluminum levels detected in the soil in Chico. This is not surprising given the tons of aluminum that burned in the Camp Fire. The victims trust has made no effort to test for toxins in the Chico soil to better evaluate Chico resident and property owner claims. Regardless, Chico residents were subjected to toxic smoke and ash for two weeks during the Camp Fire. This exposure certainly caused injury and carcinogenic poisoning to the Chico residents who suffered through it. The Victims Trust considers a potential future diagnosis just a nuisance.

Chico is being ignored and the truth covered up. P G and E is being allowed by the Victims trust to destroy Chico, injure its citizens and continue to injure anyone living here. P G and E destroyed Chico residents health, continue to do so and destroyed our homes and property through toxic exposure and contamination. P G and E destroyed Chico without burning down the City.

What does the future hold for environmentally contaminated Chico? Will homes and land have to be condemned? Will Chico homes have to be torn down and the land scraped to remove the contamination?

My claims are abundantly fair. I provided 279 pages of documentation of the harmful effects of residential and woodland burns such as the Camp Fire. The Camp Fire was unprecedented in its toxic environmental disaster that it caused to Chico. Chico residents suffered toxic exposure and lung damage that will lead to severe illness and injury post Camp Fire.

CARB has confirmed just a portion of the toxic damage done to Chico by P G and E's Camp Fire. This toxic environmental contamination remains unaddressed and the Victims Trust is covering up the crimes of P G and E. We should be fairly compensated

for the environmental contamination of our lungs and property and the toxic legacy that is now Chico, California, a sister city of Camp Lejeune and Hinkley, California.

There is a cover up by the Victims Trust of the ongoing crimes of P G and E being perpetrated against Chico citizens. We are not Children of a lesser God but victims just as the Paradise residents are.

6 September 2022

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Fire Victim Trust
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BrownGreer PLC
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Judge Dennis Montalli
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FROM:

David Edward Martin
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CLAIMANT ID: 1045539

SUBJECT:

Chico claims, toxic exposure of Chico residents during the Camp Fire, ongoing and unaddressed environmental contamination of Chico. BrownGreer PLC failure to properly administer bankruptcy claims. Disagree with BrownGreer PLC determination and methodology in administering claims. Any and all claims that I have filed.

Ms. Yanni, et al:

Congratulations on your new appointment. This report is regarding the circumstances of the Camp Fire effects on Chico, California and injuries to the residents as well as a lasting legacy of toxic contamination.

While I do understand the priority of the Paradise residents whose homes were destroyed by the Camp Fire and whose lives were threatened, I believe there is another elephant in the room that is being ignored and intentionally covered up.

Chico, California is but a few miles from Paradise. During the Camp Fire, Chico was down wind and suffered the brunt of all the toxic contaminants that burned up in the Camp Fire. All the homes, cars and property that disappeared in the fire landed in Chico.

I believe there is a criminal coverup by local politicians to ignore this fact. They no doubt don't want Chico to be associated with being a toxic waste dump. They don't want Chico to become the next Hinkley, California. Hinkley is another P G and E toxic contamination that destroyed a town.

I believe that Chico has the potential of being a far worse contamination zone than Hinkley. Toxic water can be easily measured whereas lead, mercury, arsenic and a multitude of other carcinogenic toxins that rained down from the Camp Fire cannot be so easily addressed.

Chico suffered through dense smoke and ash for two weeks of the Camp Fire. It was a hellish landscape. It made your eyes burn and breathing painful. Each breath was filling your lungs with smoke and ash. While Paradise was cleaned up to remove the toxins, Chico has never had the benefit of this procedure. Chico remains contaminated.

I have tried to get local politicians to comply with the law and notify Chico residents but to no avail. I believe they wish to cover up Chico's toxic contamination to keep their property values from plummeting.

P G and E, local politicians and the bankruptcy administrators are ignoring the law by not notifying Chico residents of the Prop 65 Carcinogens that P G and E's equipment and property deposited on our community. The residents of Chico are being ignored and getting the short end of the stick.

BrownGreer PLC have apparently come up with some scheme that you must have been in the fire danger zone to count. In reality many Paradise residents who had homes in the fire danger zone were not at home. While they suffered loss of property they were in a better position than Chico residents because they left the area and did not breathe smoke and ash for two weeks.

A sad reality is that Paradise residents who left the area do not have the lung damage and carcinogenic exposure that Chico residents have. This exposure will take the lives of many Chicoans. It probably already has and the deaths caused by this exposure will far exceed the deaths from the fire.

I disagree with BrownGreer PLCs methodology.

The Bankruptcy protection that you administer gave P G and E protection from all the many lawsuits that would be filed for their causing the Camp Fire. This is actually happening to P G and E now for the other fires that they have caused since the Camp Fire.

There would be many lawsuits for many torts. I submitted my claim for the tort of battery since P G and E damaged my lungs with particulate matter and ash. They have also damaged my property by way of toxic contamination. P G and E has also caused me emotional distress for this battery injury, contamination of property and the russian roulette of awaiting lung or other cancer from the toxins that all Chicoans breathed in for two weeks. These toxins were not cleaned up by P G and E and they remain in Chico, floating in the air with any disturbance, getting into food in our gardens and working its way into our groundwater.

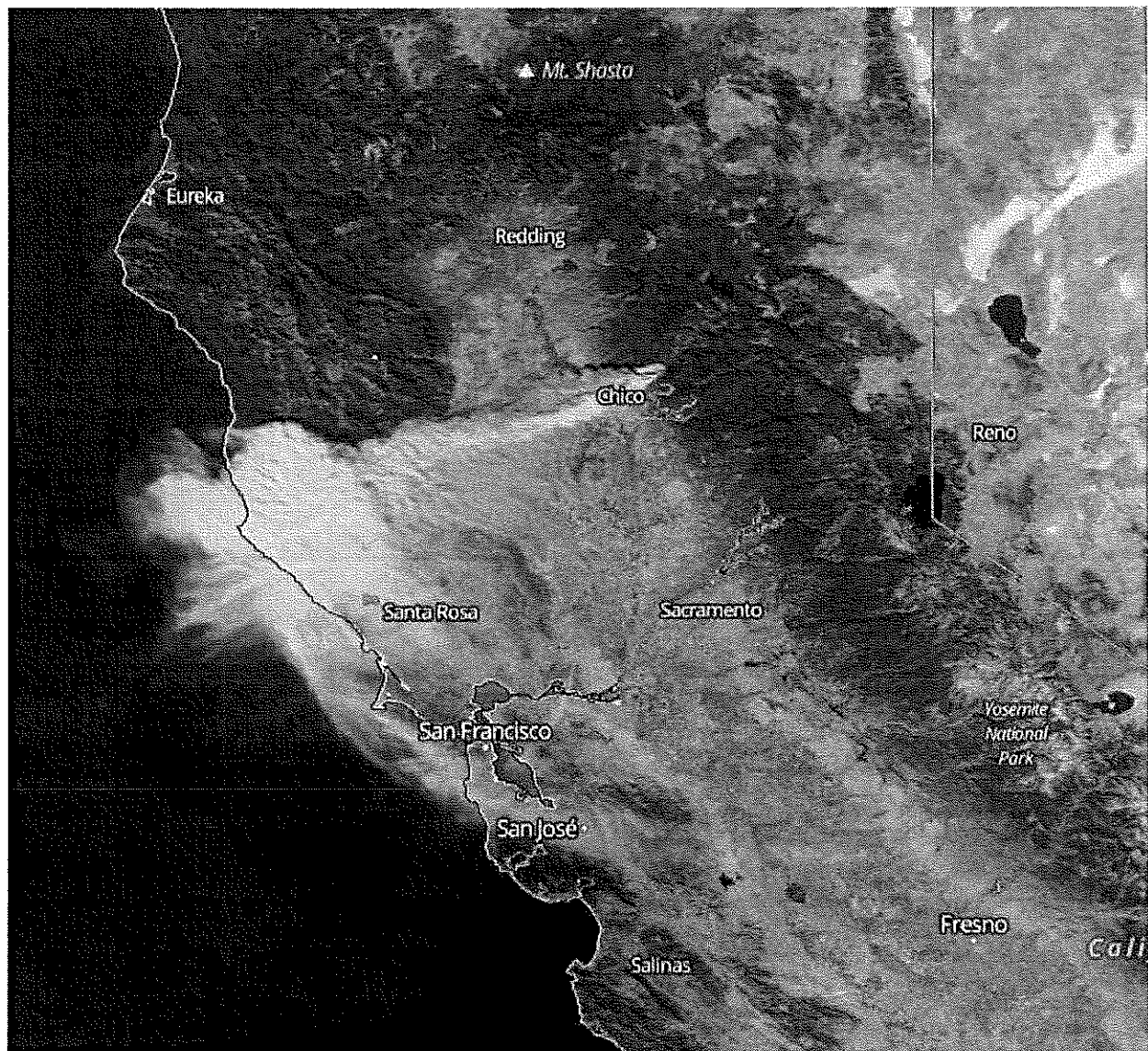
The Bankruptcy Judge must have had this in mind when he had P G and E send claim forms to Chico residents. BrownGreer PLC is acting as the Bankruptcy Judge in this

matter and has determined that Chico claimants are a mere nuisance. This is from their desks on the east coast in a contamination free zone.

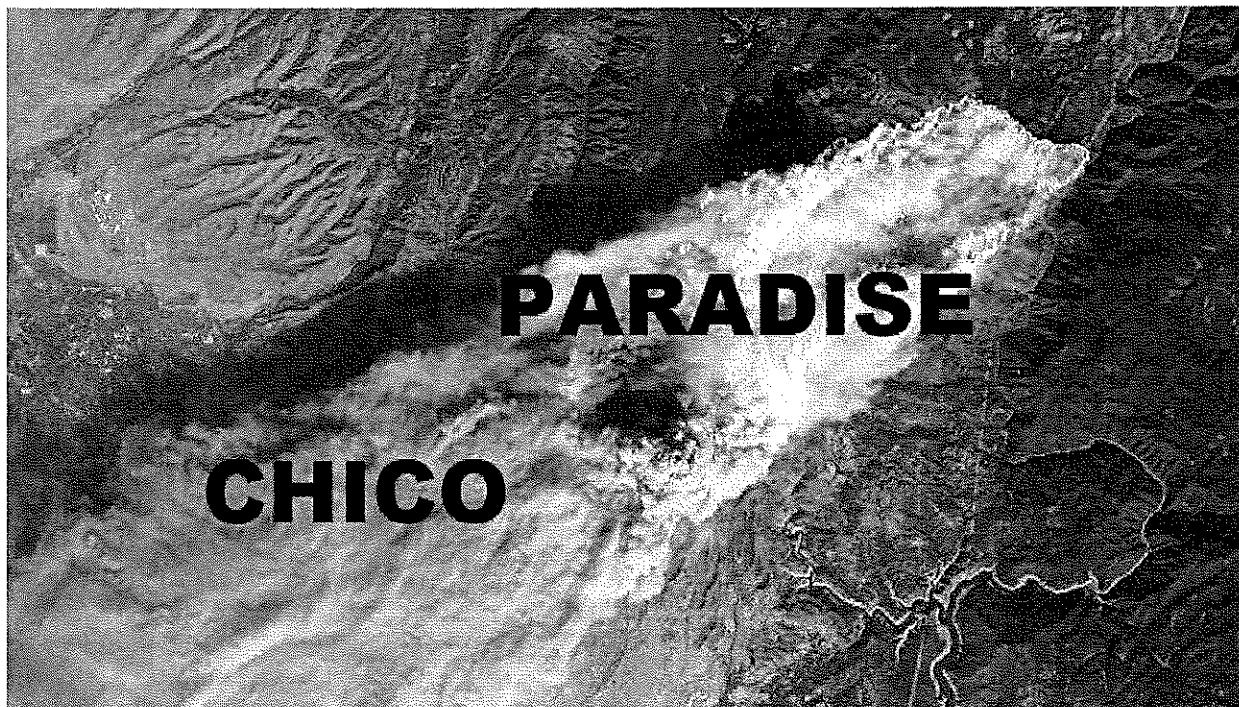
For two weeks Chico was covered in smoke and ash. The residual of these toxins from the Camp Fire remain in Chico, they also remain in people's lungs and bodies that were here during the Camp Fire. In addition, these toxins still remain and are in the environment causing repeated exposure to Chico residents. If you review the California Air Resources Board report of lead levels in the air, you can see that these lead levels would be far worse on the ground and in the soil. Lead causes severe developmental injury to children. So the legacy of the Camp Fire will be developmental disability in the Children of Chico as well as brain injury to everyone living here and those who were exposed for two weeks during the Camp Fire.

I think BrownGreer PLC's acting as the bankruptcy Judge to determine a substantial claim is only merited for those living in the burn zone. P G and E's Bankruptcy is to evade the many lawsuits that P G and E wholeheartedly deserves for its wilful injury to Butte County residents, is unlawful and unethical.

This is a satellite photo of the ash and smoke from the Camp Fire inundating Chico.



Paradise and Chico in the Camp Fire:



All of the heavy toxins that burned up in Paradise landed in Chico. Everything that disappeared in these photos went up into the air and fell as smoke and ash in Chico. Chico residents were forced to breathe this for two weeks. We are still breathing this toxic exposure environmental disaster since there has been no clean up.



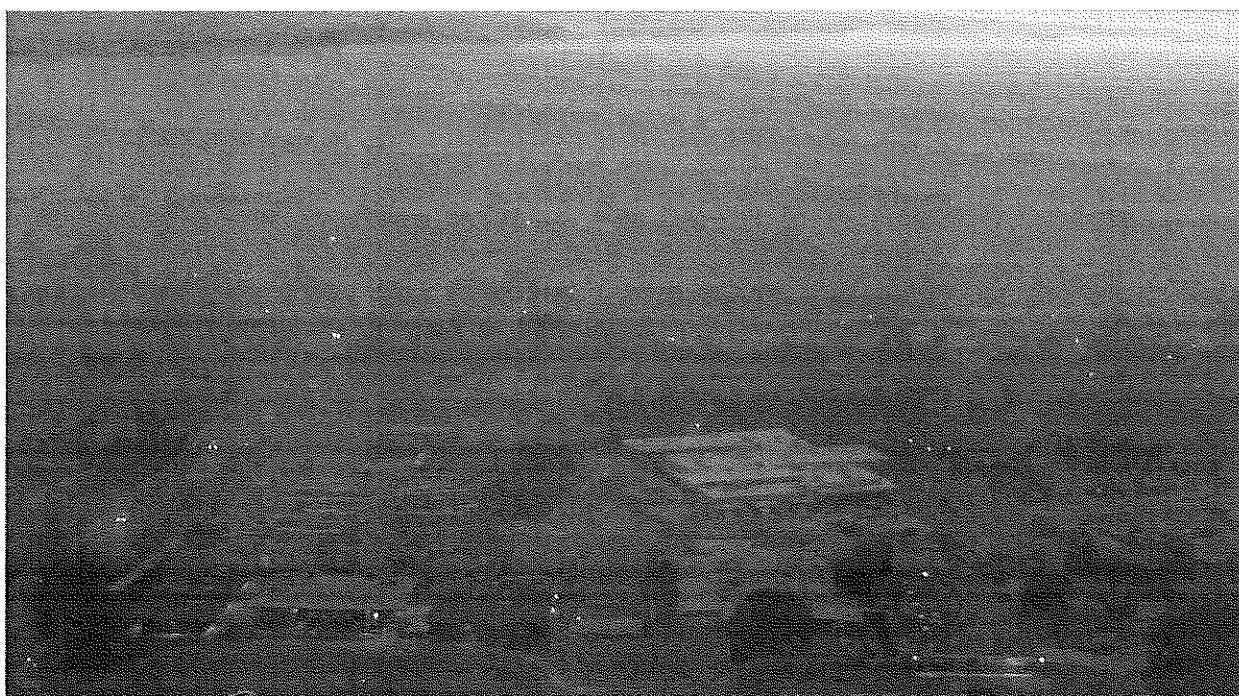
The tons of materials that burned in the Camp Fire, while turned to ash, did not simply disappear or clean itself. The environmental disaster still remains in Chico. Every toxic material in Paradise now largely resides in Chico forever.



Drone footage shows the shocking conditions in smoke-filled Chico
Michelle Robertson, SFGATE, Nov. 13, 2018



Michael Peck and his daughter captured incredible drone imagery of Chico, California, in the hours after the Camp Fire broke out in nearby Butte County.



Strange thing fell from the sky when Chico resident went to look at smoke from Camp Fire, Photo of Amy Graff, SFGATE, Nov. 8, 2018



P G and E has escaped its civil liability by filing Bankruptcy. The lawsuits that would have held P G and E accountable are not available to its victims. The Bankruptcy is designed to compensate victims of P G and E's reckless disregard for safety. P G and E is using the Bankruptcy to walk away from what their malicious behavior did to Butte County. They are not required to clean up their environmental contamination of Chico, their injury to Chico residents by way of toxic exposure or even comply with the lawful provisions of Proposition 65 and notify Chico residents that their equipment and inventory poisoned Chico residents with known carcinogens.

To add insult to injury, BrownGreer PLC is aiding and abetting P G and E in criminal acts by ignoring the crimes and civil liabilities caused by P G and E's acts.

BrownGreer PLC's negligence and willful disregard for the law is sentencing Chico residents to long term illnesses and Cancers.

For these reasons I disagree with BrownGreer PLC's determination that Chico claimants are mere nuisance claims. What I requested in my original claims is more than fair considering P G and E's escape from civil lawsuits that would have resulted in far more damages.

14 June 2022

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TO:

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From:
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Subject:

Environmental Contamination of Chico; Proposition 65 Notice.

It is clear that members of State, local, Federal government and Bankruptcy Fire Victims Trust and its administrator are intentionally ignoring the severe contamination of Chico, California from the Camp Fire. Especially egregious is the Bankruptcy Victims trust and BrownGreer PLC who are ignoring the damage done to Chico and the criminal and civil violations to Chico residents, their health and their property. Browngreer PLC is negligent in the fair application of bankruptcy law and appears to have appointed itself King and makes up its own Bankruptcy laws.

It is well known common knowledge that ash and particulate matter rained down on Chico for two weeks of the Camp Fire. Besides all of the people, homes, cars, boats, trees and private property that burned and was then deposited in Chico, P G and Es own equipment burned in the fire. This means that all of its plastic wiring, junction boxes and of special concern, its transformers possibly filled with PCB carcinogenic oil contaminated Chico. Oil and other contaminants which went up with the fire and came down on Chico.

The California Air Resources Board has confirmed the contamination of Chico in their July 2021 report. The report can be found at this address:
https://ww2.arb.ca.gov/sites/default/files/2021-07/Camp_Fire_report_July2021.pdf

California Air Resources Board
Camp Fire Air Quality Data Analysis
July 2021

These are excerpts from the report:

The 2018 Camp Fire was the deadliest wildfire in California history. At least 85 people died as the catastrophic wildfire burned through Butte County, destroying nearly 19,000 buildings and most of the town of Paradise. The fire generated a large plume of heavy smoke that traveled thousands of miles. The smoke caused dangerously high levels of air pollution in the Sacramento Valley and Bay Area in particular, for a period of about two weeks.

Particulate matter (PM) is typically the biggest health concern from wildfire smoke. Particles from smoke tend to be very small (with diameters of 2.5 micrometers [μm] and smaller), and can be inhaled into the deepest recesses of the lung. This size of particulate matter is often referred to as PM_{2.5}. The tiniest, ultrafine particles in PM_{2.5} can pass directly into the bloodstream where they can affect the heart and other organs. During the 2018 Camp Fire, maximum PM_{2.5} levels for the period from November 8 through November 22 were more than three times the average levels seen during the same time period from 2010 to 2017.

The health impacts of air pollutants produced by wildfires can be significant. While the elevated levels of lead detected in Chico during the Camp Fire only lasted for about a day, these numbers are still concerning, since lead is considered a toxic air contaminant and any increased exposure can be harmful. Lead exposure has been linked to high blood pressure, reproductive effects and cancer in adults. Infants and young children are especially sensitive to low levels of lead that are known to cause behavioral changes and learning deficits. The short-term spikes in particulate matter from the Camp Fire and other wildfires included in this analysis were comparable to industrial and mobile source pollution levels seen in countries like China and India. Both countries show subsequent increases in respiratory diseases and infections, and chronic heart and lung disease, resulting in increased medical visits, hospital admissions, and risk of death. In general, short-term exposure (days or weeks) to PM_{2.5} and wildfire smoke has been strongly linked to increasing severity of asthma; other respiratory disease,

such as chronic obstructive pulmonary disease (COPD); inflammation or infections, including bronchitis and pneumonia; emergency department visits; and hospital admissions. Long-term exposure to PM_{2.5} is linked to a wide range of human health effects, such as respiratory and heart-related illnesses and hospitalizations, adverse brain effects, depression, memory loss, learning disorders, reduced lung function growth in children and premature death.

Particulate matter is the principal pollutant of concern with wildfire smoke, particularly PM_{2.5} (with diameters of 2.5 micrometers, far smaller than the diameter of a human hair), which can be inhaled into the lungs. PM_{2.5} is a complex mixture of solids and aerosols that can contain a myriad of chemical compounds, including metals, organic and elemental carbon, potassium, organic matter and geologic material, and potentially ammonium nitrate and ammonium sulfate. During the 2018 summer wildfires and the Camp Fire, Chico showed the highest concentrations of PM_{2.5} of the four selected speciation monitoring sites. In Chico, the PM_{2.5} concentration increased by nine times above the average during the summer wildfires, and almost 100 times above the average during the Camp Fire.

Metal concentrations were higher during the Camp Fire, particularly lead (Pb) and zinc (Zn), which increased dramatically (Figure 5). Other metals including calcium (Ca), iron (Fe), and manganese (Mn) were elevated during all the wildfires studied. The metal contributions to PM_{2.5} speciation data from the Camp Fire continued until the end of November 2018.

Manganese and lead were highest at the Chico monitoring site; concentrations increased by more than four times and 50 times above the average, respectively.

WILDFIRE SMOKE

As previously noted, wildfires produce complex mixtures of potentially harmful air pollutants, including particulate matter (PM) which is comprised of increased levels of metals, toxic air contaminants, and other chemical compounds. Smoke from any type of fire (e.g. forest, brush, crop, structure, tires, waste, or wood burning) is a complex mixture of tiny solid, liquid, and gas particles and chemicals produced by incomplete burning of carbon-containing materials. More specifically, smoke from structural fires, such as residential, commercial, and industrial fires, contains more than a hundred dangerous toxins and poisonous gases, including carbon monoxide and hydrogen cyanide. Carcinogenic compounds from the burning of household materials within structures, such as benzo(a) pyrene, toxic dioxin compounds, and benzene, have been reported.⁵ PM_{2.5} can be inhaled into the deepest recesses of the lungs and the

association between PM2.5 and heart and lung effects is well documented in scientific literature.

Adverse health effects from exposure to wildfire smoke include increases in severity of respiratory problems, such as asthma, increases in emergency department visits for heart attacks and strokes, and increased risk of premature death.⁶ The U.S. EPA has estimated that short-term (days to weeks) exposure to wildfire-related PM2.5 results in between 1,500 and 2,500 deaths annually.⁷ During the 2007 San Diego wildfires, emergency department visits increased by 34 percent for respiratory conditions in general and by 112 percent for asthma in particular, compared to pre-wildfire periods.⁸ During the 2003 heavy wildfire smoke conditions in Southern California, there was a 34 percent increase in asthma hospital admissions.⁹ There is limited information on the potential health impacts due to long-term repeated exposure to wildfire smoke over multiple seasons.¹⁰ Since wildfire smoke contains PM2.5 and PM10, the long term health impacts from wildfire smoke are expected to be in line with the effects from those pollutants.

Smoke from Structural Fires

Since wildfires, and the Camp Fire in particular, can also burn structures, such as homes, associated buildings, and vehicles occupational studies can shed light on the long-term health impacts. For example, in a long-term study of U.S. firefighters, investigators reported an excess of lung, digestive, and urinary cancers, and a rare cancer of the lung - mesothelioma (associated with asbestos exposure). Recently, the investigators reported excess leukemia and excess chronic obstructive pulmonary disease (COPD)-related deaths associated with the amount of time spent at fires.¹² Some of these long-term health impacts, such as heart disease, reduced lung function, and lung cancer, are impacts also seen in populations exposed to PM2.5 and PM10.^{13,14} Among the many compounds present in structures are flame retardants, commonly used in consumer products, such as furniture, textiles, building materials, and electronics. One chemical group, called phosphorus flame retardants, has shown negative hormonal effects in laboratory tests. Further, these compounds are associated with increased hyperactivity in children.¹⁵ Given these many potential sources of these compounds, and considering the byproducts of the combustion of wood, plastics, and other chemicals released from burning structures, it is clear that the tiny particles, gases and chemicals in smoke generated from structure fires are hazardous to human health.

High levels of particulate matter in wildfire smoke posed serious health risks to residents of Butte County, as well as other areas affected by the Camp Fire. On some days, for example, the PM2.5 levels in Chico far exceeded the national 24-hour standard of 35

micrograms per cubic meter ($\mu\text{g}/\text{m}^3$). Inhaling smoke from wildfires for a short time can acutely increase the severity of asthma and COPD.²⁵ Over the entirety of the Camp Fire period, the average concentration of PM_{2.5} at the sites shown in Figure 2 was $64 \mu\text{g}/\text{m}^3$, a level almost twice the 24-hour standard, ranging from 20 to $144 \mu\text{g}/\text{m}^3$. Chico was especially hard hit with the highest period average of $144 \mu\text{g}/\text{m}^3$ and a maximum high daily-average of $412 \mu\text{g}/\text{m}^3$, almost 12 times the 24-hour standard.

CARB has led efforts to reduce lead exposures, including cleaner fuels regulations, and identified lead as a “toxic air contaminant” in 1997.²⁷ The EPA set the National Ambient Air Quality Standards (NAAQS) for lead at $0.15 \mu\text{g}/\text{m}^3$, using a 3-month average concentration. The NAAQS for lead is set by calculating the monthly average of the lead concentrations at each monitor and averaging that value with the prior two months’ average concentrations. The NAAQS standard is based on health effects that include adverse brain development in children and high blood pressure, and reproductive effects, and cancer in adults. Infants and young children are especially sensitive to low levels of lead that are known to cause behavioral changes and learning deficits. During the Camp Fire, for a period of 17 hours on November 10th, the ambient lead concentration was elevated to an average of $0.13 \mu\text{g}/\text{m}^3$. Levels of PM_{2.5} recorded by the parallel filter sampler climbed dramatically after the shutdown of the over-loaded speciation sampler in 17 hours. Estimating the lead levels from the 17 hours of sampling to a 24-hour sampling time, the potential daily lead level would be approximately $0.17 \mu\text{g}/\text{m}^3$ for the PM_{2.5} sample. While this higher level of lead was only seen for one day and therefore cannot be compared to the national 3-month average standard, the peak level of lead for the Camp Fire is concerning since lead is considered a toxic air contaminant that accumulates in human bodies, especially children, and any increased levels of exposure could be harmful.

The highest organic carbon concentrations during the Camp Fire were reported in the Chico area. The speciation sampler at Chico detected peak concentrations of $111 \mu\text{g}/\text{m}^3$, almost five times the peak concentrations ($21 \mu\text{g}/\text{m}^3$) recorded at the same site during the Carr, Mendocino, or Ferguson fires. The average organic carbon concentration at Chico during the Camp fire ($92 \mu\text{g}/\text{m}^3$ for two days of sampling) was approximately ten times higher than what was recorded during the summer wildfires. The organic carbon component of PM_{2.5} from wildfires and biomass combustion accounts for approximately 50 to 67 percent of the PM mass, is a complex chemical mixture, and contains numerous toxic compounds. One example of a toxic class of compounds present in organic carbon in wildfires is polycyclic aromatic hydrocarbons (PAHs).³² Many PAHs, or their chemical derivatives, can cause DNA damage and cancer.³³ These compounds can also cause inflammation that can damage the lungs and other organs, such as the heart.³⁴ Additional toxic compounds present in organic

carbon from wildfires, especially from burning of structures, include plasticizers, flame retardants, metals, and aldehydes.³⁵ To our knowledge, the levels of PAHs and these additional toxic compounds were not measured during the Camp Fire. The level of organic carbon measured in the Camp Fire can potentially result in increased health risks since organic carbon is a principal component of PM_{2.5} and contains numerous toxic compounds that can cause potential acute lung and heart damage and chronic health effects, such as cancer.

IT SHOULD BE NOTED THAT THE CALIFORNIA AIR RESOURCES REPORT ONLY TAKES INTO ACCOUNT PARTICULATE MATTER FLOATING IN THE AIR AND NOT THE HEAVY ASH AND SMOKE PARTICULATES THAT SETTLED ON PEOPLE AND THEIR PROPERTY IN CHICO.

CRIMINAL VIOLATIONS COMMITTED BY P G AND E TO THE RESIDENTS OF CHICO, CALIFORNIA.

Currently P G and E is facing Criminal and Civil liability for causing the Zogg fire. There are numerous lawsuits against P G and E. These are lawsuits that Chico residents would pursue against P G and Es contamination of property and bodily injury (the Tort of Battery with particulate matter and ash among other criminal and civil actionable claims) from the Camp Fire fallout. Currently P G and Es bankruptcy bars action against P G and E for these damages by all the residents of Chico who were wronged. The only recourse is the bankruptcy Court and BrownGreer PLC has determined that the contamination of Chico by P G and E is insignificant at best. BrownGreer PLC is acting as the de facto Bankruptcy Judge in this matter.

BrownGreer PLC are ignoring P G and Es violations of law and civil tort as to Chico residents and consider the pollution caused by P G and E and the personal injuries from the Camp Fire as identified by the California Air Resources Board report to be a minor nuisance claim.

BrownGreer PLC and the Bankruptcy Trust are ignoring residents of Chico damages and making their own Bankruptcy law.

P G and E was unable to hide behind Bankruptcy Court for the Zogg fire and recently settled criminal and civil damages for the Dixie Fire.

Civil tort damages are many for P G and Es reign of terror on California residents. One need not live in a fire burn scar area to be entitled to these damages. The California Air

Resources Board has clearly stated this. You need not be in the burn perimeter of a fire to be in the affected zone.

I reported the environmental crimes of P G and E to Butte County District Attorney Michael Lee Ramsey as well as the California Attorney General, California OSHA and EPA and Federal EPA for causing air and water pollution in Chico. Ramsey ignored my report/request. I believe Ramsey ignored my report because he harbors resentment toward me for reporting him for the physical child abuse of his two juvenile daughters when I was a Butte County Deputy Sheriff. So his petty ignorance was no surprise.

Currently P G and E has pled not guilty to all counts charged for causing the Zogg Fire. I suspect that Butte County District Attorney Michael Lee Ramsey did not pursue criminal charges of pollution against P G and E because he is compromised by his extortion of P G and E in the dropping of criminal charges against P G and E which then lead to the Camp Fire. Ramsey received 1.5 million from P G and E to assist them in avoiding a federal felony probation violation of their federal felony probation for the pipeline explosion that killed 8 people in San Bruno. This was a clear criminal violation of the Hobbs Act.

Shasta County District Attorney Stephanie Bridgett is not compromised like Ramsey and has filed 31 criminal counts against P G and E, as well as 5 enhancements.

Counts 18 through 22 are for Negligent emission of air pollution.

NEGLIGENT EMISSION OF AIR POLLUTION, in violation of Section 42400.1(a) of the Health and Safety Code, a Misdemeanor. Defendant (s) PACIFIC GAS AND ELECTRIC COMPANY (PG&E), On or about the 27th day of September, 2020, did negligently emit an air contaminant, to wit, wildfire smoke and related particulate matter and ash, in violation of Health and Safety Code sections 41700 and 41701(a). Health and Safety Code section 41700 prohibits the discharge from any source whatsoever of quantities of air contaminants or other material that cause injury, detriment, nuisance, or annoyance to any considerable number of persons or to the public, or that endanger the comfort, repose, health, or safety of any of those persons or the public, or that cause, or have a natural tendency to cause, injury or damage to business or property. Health and Safety Code section 41701 prohibits the discharge into the atmosphere from any source whatsoever of any air contaminant, other than uncombined water vapor, for a period or periods aggregating more than three minutes in any one hour which is as dark or darker in shade as that designated as No. 2 on the Ringelmann Chart, as published by the United States Bureau of Mines.

Counts 23 through 27 are for Reckless Emission of air pollution.

RECKLESS EMISSION OF AIR POLLUTION, in violation of Section 42400.3(b) of the Health and Safety Code, a Misdemeanor. Defendant (s) PACIFIC GAS AND ELECTRIC COMPANY (PG&E), On or about the 27th day of September, 2020, with reckless disregard for the risk of great bodily injury to, or death of, any person, did emit an air contaminant, to wit, wildfire smoke, and related particulate matter and ash, in violation of Health and Safety Code section 41700, that did result in an unreasonable risk of great bodily injury to, or death of, any person.

Both Negligent and Reckless emission of air pollution have state defined civil penalties. It appears that P G and E is using the Bankruptcy Court to evade these penalties and the citizens of Chico have no rights to compensation or civil lawsuit against P G and E. We also have no rights to fair compensation in Bankruptcy as determined by BrownGreer PLC.

California Code, Health and Safety Code - HSC § 42402.1

(a) Any person who negligently emits an air contaminant in violation of this part or any rule, regulation, permit, or order of the state board or of a district, including a district hearing board, pertaining to emission regulations or limitations is liable for a civil penalty of not more than twenty-five thousand dollars (\$25,000).

(b) Any person who negligently emits an air contaminant in violation of Section 41700 that causes great bodily injury, as defined by Section 12022.7 of the Penal Code , to any person or that causes the death of any person, is liable for a civil penalty of not more than one hundred thousand dollars (\$100,000).

(c) Each day during any portion of which a violation occurs is a separate offense.

Statutory Penalties for Air Pollution Violations

Air pollution violations may result in either criminal or civil liability.

Relevant criminal penalties are contained in California Health and Safety Code sections 42400, 42400.1, 42400.2, 42400.3, 42400.3.5, and 42400.4.

Enforcement authority for civil penalties, as required by the State Implementation Plan, can be found in the California Health and Safety Code Civil Penalties sections 42402, 42402.1, 42402.2, 42402.3, 42402.4, and 42402.5.

\$5,000 per Day Strict Liability

Under Section 42402(a), a person is strictly liable for a civil penalty of \$5,000 per day for violating any provision of the Health and Safety Code section within Part 4 of Division 26 of the code or any order, permit, rule, or regulation of a district, including a

district hearing board, or of the state Air Resources Board issued pursuant to Parts 1 through 4 of Division 26 of the code.

What this means in plain language is that a person who violates any provision of the Health and Safety Code is strictly liable for a civil penalty of \$5,000 per day.

\$10,000 per Day

Under Section 42402(b), a person may be liable for a civil penalty of up to \$10,000 per day if that person has violated any Health and Safety Code section in Part 4 of Division 26 of the code, or any order, permit, rule, or regulation of a district, including a district hearing board, or of the state Air Resources Board issued pursuant to Parts 1 through 4 of Division 26 of the code.

What this means in plain language is that a person who violates applicable state law, will be subject to a civil penalty of up to \$10,000 per day unless the violator can establish that the violation was not the result of intentional or negligent conduct. If the violation involves the emission of air contaminants, the penalty could be higher than \$10,000 per day.

\$25,000 per Day

Under Section 42402.1, a person may be liable for a civil penalty of up to \$25,000 per day if that person has negligently emitted an air contaminant in violation of Part 4 of Division 26 of the code, or any rule, regulation, permit or order of the state Air Resources Board or district board pertaining to emission regulations or limitations. What this means in plain language is that a person who carelessly, inattentively, or inadvertently violates air pollution rules, causing the emission of air contaminants, will be subject to a civil penalty of up to \$25,000 per day. Moreover, if the negligent emission of air contaminants causes actual harm to an individual, a civil penalty of up to \$100,000 per day may be imposed.

In addition, if the violation results in a situation of public nuisance under Health and Safety Code Section 41700 which causes injury to the public, the potential penalty increases to \$15,000 per day. See Section 42402(c).

\$40,000 per Day

Under Section 42402.2, a person may be liable for a civil penalty of up to \$40,000 per day if that person has emitted an air contaminant in violation of Part 4 of Division 26 of the code, or any order, rule, regulation, or permit of the state Air Resources Board or district board pertaining to emission regulations or limitations, provided the person knew of the emission and failed to take corrective action within a reasonable time under the

circumstances. Moreover, if the knowing emission of air contaminants causes actual harm to an individual, a civil penalty of up to \$250,000 per day may be imposed. "Corrective action" means a termination of the emission violation or the grant of a variance from the applicable order, rule, regulation or permit, or compliance with a regulation excusing the violation.

What this means in plain language is that a person who violates air pollution rules will be subject to a civil penalty of up to \$40,000 per day if the violation causes the emission of an air contaminant and the person knows of the emission but fails to act promptly to halt the emission.

What matters is that there was a violation that caused an emission and the person knew of the emission without acting as quickly as he could have to stop it. The person's knowledge of the emission and the failure to act promptly are the key elements in making this a serious type of violation.

\$75,000 Per Day

Under Section 42402.3, a person may be liable for a civil penalty of up to \$75,000 per day if that person willfully and intentionally emits an air contaminant in violation of any Health and Safety Code section in Part 4 of Division 26 of the code or any order, rule or regulation of the state Air Resources Board or district pertaining to emission regulations or limitations.

If the willful and intentional emission of air contaminants causes injury to any person or results in a violation of Health and Safety Code Section 41700 which poses a risk of injury to any person, one may be liable for a civil penalty of up to \$125,000 per day and a corporation may be liable for an amount up to \$500,000 per day. If the willful and intentional emission of air contaminants causes great bodily injury or death, a person may be liable for a civil penalty of up to \$250,000 per day and a corporation may be liable for an amount up to \$1,000,000 per day.

Policy of Judging Each Violation Individually

As a matter of state law, a court is obligated to evaluate each violation individually and with reference to all relevant facts and circumstances.

The Chico area remains heavily contaminated but there has been no action by local government to test the contamination levels. We Chico residents are caught in a catch 22 in which P G and E has used bankruptcy to evade liability and the Bankruptcy trust

has determined that this contamination and poisoning of our lungs, bodies, water ways, air and property, poison that remains to this day is only a nuisance claim.

Chico residents have been betrayed by the local government, Butte County District Attorney Michael Lee Ramsey and BrownGreer PLC in this process. Even local power crazed career politicians who claim they are environmentalists are allowing an environmental disaster to slowly kill Chico residents.

No one is taking responsibility for the environmental testing and clean up of Chico.

A severe change is coming to all levels of government. Economists are predicting a severe economic depression and civil unrest. The Federal government has printed trillions of currency in the past few years and it is time to pay the piper. This will result in significant shrinkage to the government and pay and benefits. The party is about to be over. I hope during this transition that everyone in the local government who let Chico remain contaminated and damaged without fair compensation and protection find themselves on the right side of history.

PACIFIC GAS AND ELECTRIC COMPANY'S POWER EQUIPMENT IN THE CAMP FIRE BURNED UP AND LANDED IN CHICO POLLUTING THE CITY. THERE WERE MANY P G AND E TRANSFORMERS IN PARADISE. DID THESE TRANSFORMERS CONTAIN PCB (Polychlorinated biphenyls) OIL WHICH IS CARCINOGENIC ? IF SO THIS CARCINOGENIC OIL RAINED DOWN ON CHICO AND IS STILL PRESENT. HAS ANYONE IN LOCAL GOVERNMENT ASKED FOR AN INVESTIGATION INTO THIS AND WHAT P G AND E OWNED THAT CONTAMINATED CHICO ?

PROPOSITION 65 AS IT RELATES TO THE CONTAMINATION OF CHICO, RESPONSIBILITY AND THE CHAIN OF RESPONSIBILITY IN LOCAL GOVERNMENT AND THE BANKRUPTCY TRUST:

P G and E is a company doing business in California. It delivers products in the form of electricity and natural gas. Its own equipment and property subject it to California's voter initiative proposition 65. Besides the tons of carcinogenic toxic chemicals that P G and E deposited on Chico from its stupidity in causing the Camp Fire, its own equipment contaminated Chico. Again, has anyone asked P G and E if any of its transformers or any other P G and E equipment that burned in Paradise and the surrounding area contained Polychlorinated biphenyls ? were any of their transformers made before 1979 ? What did P G and E lose in the Camp Fire that is on the Proposition 65 list ?

There are many other things that P G and E owned that were carcinogenic that burned in the fire. They must have had equipment that contained lead and mercury. The California Proposition list is very extensive and I am sure that P G and E property that burned in the Camp Fire contained carcinogens on that list.

The high lead levels reported by the California Air Resources Board are now in the lungs, body and on the property of Chico Residents.

Both lead and Polychlorinated biphenyls (PCBs) are on the Proposition 65 list:

Chemical Type of Toxicity CAS No. Date Listed

Polychlorinated biphenyls cancer --- October 1, 1989
Polychlorinated biphenyls developmental --- January 1, 1991
Polychlorinated biphenyls; cancer --- January 1, 1988
Lead developmental, female, male; February 27, 1987
Lead and lead compounds cancer --- October 1, 1992
Lead acetate cancer 301-04-2 January 1, 1988
Lead phosphate cancer 7446-27-7 April 1, 1988
Lead subacetate cancer 1335-32-6 October 1, 1989

Has anyone from the local government or the Fire Victims Trust asked P G and E if any of their property or equipment that burned in the fire contained carcinogens or developmental toxins on the proposition 65 list ? It is unlikely that they owned no equipment, chemicals or property that was not.

Proposition 65:

California Code, Health and Safety Code - HSC § 42402.1

- (a) Any person who negligently emits an air contaminant in violation of this part or any rule, regulation, permit, or order of the state board or of a district, including a district hearing board, pertaining to emission regulations or limitations is liable for a civil penalty of not more than twenty-five thousand dollars (\$25,000).
- (b) Any person who negligently emits an air contaminant in violation of Section 41700 that causes great bodily injury, as defined by Section 12022.7 of the Penal Code , to any person or that causes the death of any person, is liable for a civil penalty of not more than one hundred thousand dollars (\$100,000).
- (c) Each day during any portion of which a violation occurs is a separate offense.

California Code, Health and Safety Code - HSC § 25249.5

No person in the course of doing business shall knowingly discharge or release a chemical known to the state to cause cancer or reproductive toxicity into water or onto or into land where such chemical passes or probably will pass into any source of drinking water, notwithstanding any other provision or authorization of law except as provided in Section 25249.9 .

California Code, Health and Safety Code - HSC § 25249.6

No person in the course of doing business shall knowingly and intentionally expose any individual to a chemical known to the state to cause cancer or reproductive toxicity without first giving clear and reasonable warning to such individual, except as provided in Section 25249.10 .

California Code, Health and Safety Code - HSC § 25249.7

(a) A person who violates or threatens to violate Section 25249.5 or 25249.6 may be enjoined in any court of competent jurisdiction.

(b)(1) A person who has violated Section 25249.5 or 25249.6 is liable for a civil penalty not to exceed two thousand five hundred dollars (\$2,500) per day for each violation in addition to any other penalty established by law. That civil penalty may be assessed and recovered in a civil action brought in any court of competent jurisdiction.

California Code, Health and Safety Code - HSC § 25249.11

For purposes of this chapter:

(a) "Person" means an individual, trust, firm, joint stock company, corporation, company, partnership, limited liability company, and association.

(b) "Person in the course of doing business" does not include any person employing fewer than 10 employees in his or her business; any city, county, or district or any department or agency thereof or the state or any department or agency thereof or the federal government or any department or agency thereof; or any entity in its operation of a public water system as defined in Section 116275 .

(c) "Significant amount" means any detectable amount except an amount which would meet the exemption test in subdivision (c) of Section 25249.10 if an individual were exposed to such an amount in drinking water.

Toxic levels of Lead have been confirmed in the air in Chico during the Camp Fire by the California Air Resources Board. None of the government entities in the chain of responsibility have made any provision or effort to test and identify the contamination of Chico. There has been no discussion of cleanup of this contamination.

There has been a government blackout of the required Proposition 65 notice to at least notify Chico residents that their property was contaminated by P G and E.

It would appear that many California laws and civil remedies are being hidden behind Bankruptcy. The Bankruptcy Trust administered by BrownGreer PLC is intentionally underestimating the claims of Chico residents, apparently making up its own Bankruptcy law without authorization or consultation from the Trustee and Bankruptcy Judge.

I have outlined the valid claims of Chico residents for the bankruptcy claims of Chico residents and they are not claims of nuisance. Battery by particulate carcinogens is not a nuisance but a potential sentence of death and disability. In addition, the environmental damage done to Chico residents property is as significant as the damage done to paradise property. At least paradise residents had their property cleaned of environmental toxins and carcinogens whereas Chico has been left holding the cancer bag by Butte County District Attorney Michael Lee Ramsey, the Chico City Council, the Butte County Board of Supervisors, my own Board Representative, Debra Lucero (a supposed liberal environmentalist) and the Fire Victim Trust as it is being mis-administered by BrownGreer PLC.

BANKRUPTCY CLAIMS OF CHICO RESIDENTS ARE SIMPLE, P G AND E COMMITTED BATTERY BY ITS WILLFUL NEGLIGENT BEHAVIOR AND POLLUTED OUR PERSONS AND PROPERTY CAUSING ACTIONABLE DAMAGES. THESE DAMAGES WILL CONTINUE INTO THE FUTURE AND ARE NOT A MERE NUISANCE, THEY ARE A DEATH SENTENCE BY A NEGLIGENT ABUSIVE GOVERNMENT AND THEIR BUREAUCRATIC ADMINISTRATORS.

The California Air Resources Board (CARB), Camp Fire Air Quality Data Analysis, July 2021 report is attached for your review.

26 April, 2022

Judge Dennis Montalli
Courtroom 17
United States Bankruptcy Court
Northern District of California
450 Golden Gate Ave.
Mailbox 36099
San Francisco, California , 94102

Trustee
John K. Trotter, Trustee of the Fire Victim Trust
Fire Victim Trust
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San Francisco, CA 94111
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P.O Box 25936
Richmond, Va 23260

Rob Bonta
California Attorney General
1300 I St, Sacramento, CA 95814

FROM:
David Edward Martin
3108 Aloha Lane
Chico, California 95973
In Pro Se
Claimant ID: 1045539
Claims questionnaire ID: 10041697

Claim ID: 265075

Damage category Emotional Distress-Zone of Danger.

SUBJECT:

VIOLATION OF CALIFORNIA PROPOSITION 65 BY PACIFIC GAS AND ELECTRIC COMPANY AND BUTTE COUNTY DISTRICT ATTORNEY MICHAEL LEE RAMSEY AND CLAIMS PROCESSOR FIRE VICTIM TRUST BROWNGREER PLC.

REQUEST FOR THE BANKRUPTCY TRUST AND BANKRUPTCY JUDGE DENNIS MONTALLI TO DELETE/BAR BANKRUPTCY PROTECTION FOR PACIFIC GAS AND ELECTRIC COMPANY FOR CHICO RESIDENTS INJURED/DAMAGED/CONTAMINATED BY THE ASH AND SMOKE FALLOUT OF THE CAMP FIRE.

RESPONSE TO FVT PRO RATA PAYMENT NOTIFICATION AND DETERMINATION NOTICE.

WHISTLEBLOWER PROTECTION ACT.

The Camp Fire contaminated Chico California with tons of Carcinogenic smoke and ash particulates. This contamination requires notice from responsible entities under California's proposition 65. To date no notice of toxic exposure to cancer and reproductive harm has been made to the residents of Chico who suffered this exposure.

This violation of proposition 65 is clearly a criminal coverup of the contamination of Chico, California.

Currently, Pacific Gas and Electric Company is violating Proposition 65 while hiding behind bankruptcy protection. The citizens of Chico who were just as affected for purposes of Bankruptcy as the Paradise residents were are being ignored by the Claims Processor, BROWNGREER PLC, Fire Victims Trust. At some point BROWNGREER PLC became responsible for reporting to all Chico residents that P G and E contaminated Chico with the deadly chemicals and toxins from the Camp Fire. BROWNGREER PLC has made no such notice of Chico residents. Moreover, BROWNGREER PLC appears to be engaged in a criminal cover up of the Proposition 65 violations by their determination that any claims made by Chico, California residents are mere nuisance claims that have no damages.

PROPOSITION 65:

Proposition 65 requires a person or entity who exposes an individual in California to a chemical deemed by the state to cause cancer or reproductive toxicity to give "a clear and reasonable warning". Failure to give the required warning is punishable by a civil penalty, injunctive relief, and the obligation to pay plaintiff's costs and attorney's fees.

Proposition 65 is enforced through civil lawsuits. While the California Attorney General can prosecute actions for violation of Prop 65, so, too, can anyone else. Attorneys who bring an action for violation of Proposition 65 are entitled to 25% of any civil penalty, together with costs and attorney's fees.

THE FIRE VICTIM TRUST DETERMINATION THAT CHICO RESIDENTS ARE ONLY ENTITLED TO A MINOR NUISANCE CLAIM DENIES CHICO RESIDENTS DUE PROCESS UNDER THE LAW. THIS CAN BE REMEDIED BY THE BANKRUPTCY COURT ALLOWING CHICO RESIDENTS TO SEEK DAMAGES FROM P G AND E AND NOT ALLOW THE COMPANY TO HIDE BEHIND BANKRUPTCY PROTECTION WHILE BROWNGREER PLC ASSIST P G AND E IN THIS FRAUD.

I believe that Chico residents have suffered severe contamination to their bodies air, water, land and homes in violation of the clean air and water act as well as Proposition 65.

Currently Enloe Hospital is building a new cancer treatment center. The Hospital announced that it is doing this because cancer rates are estimated to increase by 40 percent. While they did not state that this is because of the contamination of the Camp Fire, one can only extrapolate that there is no other reason for such an increase other than the Camp Fire.

Since BROWNGREER PLC is involved in denying the rights of Chico residents it would be appropriate for the Bankruptcy court to make special permission for Chico residents to be exempt from the P G and E chapter 11 bankruptcy proceedings and pursue civil actions against P G and E directly through lawsuits. I know many attorneys who would prefer this action and I believe that the Chico residents would receive a more fair compensation from adjudicated civil lawsuits.

Should the Bankruptcy proceedings not bar Chico residents from pursuing a proposition 65 claim against P G and E, I request that Judge Montalli make that determination and issue an order that Attorneys and claimants are not barred by the bankruptcy procedure from pursuing claims against P G and E, Butte County District Attorney Michael Lee Ramsey, and BROWNGREER PLC.

Ramsey has violated Proposition 65. He was in charge of the prosecution of P G and E but made no notice of the Proposition 65 dangers suffered by Chico and other Butte County residents. Ramsey further violated the Hobbs Act and contributed to the Camp Fire by extorting 1.5 million dollars from P G and E in exchange for assisting P G and E in avoiding a felony federal probation violation. This public corruption payoff led directly to P G and Es inaction in shutting down the antiquated Cariboo line in high winds which sparked the Camp Fire and burned over 85 people alive and displaced 50 thousand.

Camp Fire Air Quality Data Analysis

CATEGORIES

Topics

Air Quality Monitoring,
Smoke, Research

Programs

Wildfires, Incident Air
Monitoring

Type

Reports

Executive Summary

The 2018 Camp Fire was the deadliest wildfire in California history. At least 85 people died as the catastrophic wildfire burned through Butte County, destroying nearly 19,000 buildings and most of the town of Paradise. The fire generated a large plume of heavy smoke that traveled thousands of miles. The smoke caused dangerously high levels of air pollution in the Sacramento Valley and Bay Area in particular, for a period of about two weeks.

Staff at the California Air Resources Board (CARB) compared air quality data from the Camp Fire with three other large wildfires in 2018 that burned mostly vegetation. When wildfires burn structures, they produce a range of harmful and toxic substances. CARB's analysis shows this was indeed the case during the Camp Fire, when elevated levels of lead and zinc were detected, as well as calcium, iron and manganese. Some of these metals traveled more than 150 miles, and were detected in the air as far away as San Jose and Modesto.

Particulate matter (PM) is typically the biggest health concern from wildfire smoke. Particles from smoke tend to be very small (with diameters of 2.5 micrometers [μm] and smaller), and can be inhaled into the deepest recesses of the lung. This size of particulate matter is often referred to as PM_{2.5}. The tiniest, ultrafine particles in PM can pass

2.5 2.5

directly into the bloodstream where they can affect the heart and other organs. During the 2018 Camp Fire, maximum PM levels for the period from November 8 through 2.5

November 22

were more than three times the average levels seen during the same time period from 2010 to 2017.

The number of buildings burned during this fire was significant, and not something traditionally seen in California wildfires. The Carr Fire, which burned over 50 percent more acreage in the Shasta-Trinity National Forest in late July and August of 2018, destroyed about 1,600 buildings. The Mendocino Complex Fire, occurring during the same time period, burned almost three times the acreage of the Camp Fire, but destroyed only about 250 buildings. CARB staff used data from these wildfires, as well as that collected during the Ferguson Fire in Mariposa County, which burned mostly inaccessible wildland areas during the same basic time period (late summer 2018). The goal was to better understand the air quality differences that might occur between wildfires that burn primarily vegetation, such as the Ferguson Fire, and those that burn more structures. Staff also examined potential additional health impacts that could arise from structure-burning wildfires in more populated areas.

All four wildfires showed increases in PM levels, with higher concentrations measured at

2.5

sites closer to the fires. Data from all four fires showed increases in the metal composition of PM as well. Only the Camp Fire, however, saw significant increases in both lead and

2.5

zinc. Lead was highest in Chico, which was the closest available monitoring site to the Camp Fire, while zinc levels were slightly higher at the monitoring site in Modesto, roughly 150 miles away. It is unclear if sources other than the Camp Fire may have contributed to the zinc detected in Modesto. Other components, such as organic carbon and potassium ions, used as a way to chemically trace the presence of smoke, were elevated during all the wildfires, with the highest levels also occurring in Chico during the Camp Fire. Data collected during the four wildfires showed no significant differences in other chemical components of PM.

2.5

The health impacts of air pollutants produced by wildfires can be significant. While the elevated levels of lead detected in Chico during the Camp Fire only lasted for about a day, these numbers are still concerning, since lead is considered a toxic air contaminant and

any increased exposure can be harmful. Lead exposure has been linked to high blood pressure, reproductive effects and cancer in adults. Infants and young children are especially sensitive to low levels of lead that are known to cause behavioral changes and learning deficits.

The short-term spikes in particulate matter from the Camp Fire and other wildfires included in this analysis were comparable to industrial and mobile source pollution levels seen in countries like China and India. Both admissions, and risk countries show subsequent increases in of death. respiratory diseases and infections, and chronic heart and lung disease, resulting in increased medical visits, hospital

In general, short-term exposure (days or weeks) to PM and wildfire smoke has been 2.5 strongly linked to increasing severity of asthma; other respiratory disease, such as chronic obstructive pulmonary disease (COPD); inflammation or infections, including bronchitis and pneumonia; emergency department visits; and hospital admissions. Long-term exposure to PM is linked to a wide range of human health effects, such as respiratory 2.5 and heart-related illnesses and hospitalizations, adverse brain effects, depression, memory loss, learning disorders, reduced lung function growth in children and premature death.

CARB is sponsoring several studies that will provide additional insight into both the short term and long-term health impacts of wildfire smoke. CARB-funded investigators are currently studying the associations between short-term exposure to wildfire PM and

2.5 loss of work days and increases in asthma attacks. CARB is also funding a long-term health effects study in which primates were naturally exposed during infancy to wildfires and continue to be monitored throughout adulthood. Additionally, CARB is pursuing future research to examine the effects of repeated short-term exposures to PM that are

2.5 becoming more common with large wildfires and longer wildfire seasons in California.

Increased monitoring of wildfire pollution, particularly during fires with higher incidences

of structures burning, is paramount to understand the impacts these different types of fires have on air quality as well as the health of California's citizens. Partly as a result of this analysis, and the recent severity and scale of wildfires in California, CARB is proposing an expansion of monitoring efforts, including an increased response with portable samplers for both particulate matter and air toxics. In addition, CARB will modify sampling frequencies and durations as needed and increase its cooperation with CalOES to better understand the components of each type of wildfire smoke, while also providing the public with more detailed information about smoke impacts.

CAMP_FIRE_REPORT_JULY2021.PDF · 7.673 MB

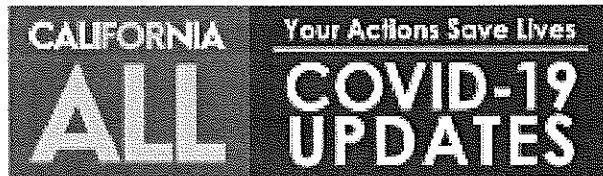
DOCUMENTS

Camp Fire Air Quality Data Analysis

RELATED RESOURCES

	Related Toxic Emissions	enfoque en las emisiones tóxicas relacionadas con los metales
Community Engagement and Community-Centric Research Roadmap: Focus on Metals	Actualmente Aceptando Pre Propuestas para el Proyecto de Participación Comunitaria con	SNAPS Inglewood Oil Field Communities Draft Air Monitoring Plan

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July 2021

Cover image courtesy of CAL FIRE

CARB's mission is to promote and protect public health,
welfare, and ecological resources through effective

reduction of air pollutants while recognizing and considering effects on the economy. CARB is the lead agency for climate change programs and oversees all air pollution control efforts in California to attain and maintain health-based air quality standards.

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size of particulate matter is often referred to as $\text{PM}_{2.5}$. The tiniest, ultrafine particles in $\text{PM}_{2.5}$ can pass directly into the bloodstream where they can affect the heart and other organs. During the

The Paradise Gardens community in Paradise, California, was devastated by the November 2018 Camp Fire.

2018 Camp Fire, maximum $\text{PM}_{2.5}$ levels for the period from November 8 through November 22 were more than three times the average levels seen during the same time period from 2010 to 2017.

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The health impacts of air pollutants produced by wildfires can be significant. While the elevated levels of lead detected in Chico during the Camp Fire only lasted for about a day, these numbers are still concerning, since lead is considered a toxic air contaminant and any increased exposure can be harmful. Lead exposure has been linked to high blood pressure, reproductive effects and cancer in adults. Infants and young children are especially sensitive to low levels of lead that are known to cause behavioral changes and learning deficits.

The short-term spikes in particulate matter from the Camp Fire and other wildfires included in this analysis were comparable to industrial and mobile source pollution levels seen in countries like China and India. Both countries show subsequent increases in respiratory diseases and infections, and chronic heart and lung disease, resulting in increased medical visits, hospital admissions, and risk of death.

In general, short-term exposure (days or weeks) to PM_{2.5} and wildfire smoke has been strongly linked to increasing severity of asthma; other respiratory disease, such as chronic obstructive pulmonary disease (COPD); inflammation or infections, including bronchitis and pneumonia; emergency department visits; and hospital admissions. Long-term exposure to PM_{2.5} is linked to a wide range of human health effects, such as respiratory and heart-related illnesses and hospitalizations, adverse brain effects, depression, memory loss, learning disorders, reduced lung function growth in children and premature death.

CARB is sponsoring several studies that will provide additional insight into both the short-term and long-term health impacts of wildfire smoke. CARB-funded investigators are currently studying the associations between short-term exposure to wildfire PM_{2.5} and loss of work days and increases in asthma attacks. CARB is also funding a long-term health effects study in which primates were naturally exposed during infancy to wildfires and continue to be monitored throughout adulthood. Additionally, CARB is pursuing future research to examine the effects of repeated short-term exposures to PM_{2.5} that are becoming more common with large wildfires and longer wildfire seasons in California.

Increased monitoring of wildfire pollution, particularly during fires with higher incidences of structures burning, is paramount to understand the impacts these different types of fires have on air quality as well as the health of California's citizens. Partly as a result of this analysis, and the recent severity and scale of wildfires in California, CARB is proposing an expansion of monitoring efforts, including an increased response with portable samplers for both particulate matter and air

toxics. In addition, CARB will modify sampling frequencies and durations as needed and increase its cooperation with CalOES to better understand the components of each type of wildfire smoke, while also providing the public with more detailed information about smoke impacts.

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Background

The Camp Fire burned more than 150,000 acres, including most of the town of Paradise, from November 8 until November 25, 2018, when it was considered fully contained. Eighty-five people died as a direct result of the fire, which also destroyed almost 19,000 structures (14,000 of them residences).¹ Recovery efforts continue to this day, with rebuilding ongoing for both residents and businesses in the community.

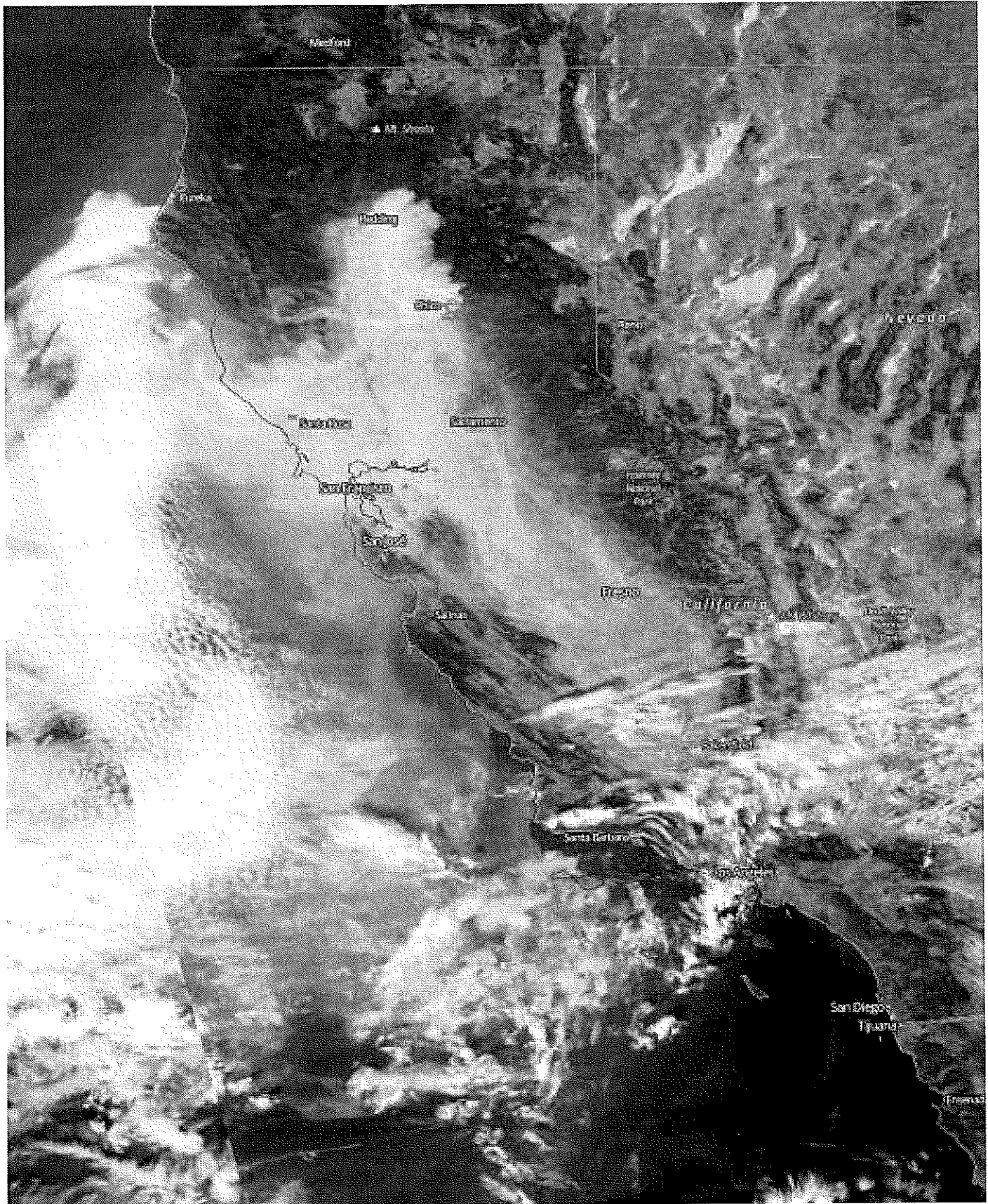
Smoke from the fire began impacting communities almost immediately. Thick smoke plumes initially spread due west, migrating toward the coast (see Figure 1 and images in Appendix B) and eventually impacting areas both to the south and the north. There was some impact in the mountains to the east, but prevailing winds kept those impacts minimal. Smoke advisories were issued by various local air districts almost immediately. With the first initial impacts recorded on November 8, the highest levels of particulate matter (PM) were recorded between November 13 and November 16, and concentrations finally returned to normal conditions, below current state and federal PM ambient air quality standards (standards), by November 22.

This document brings together an understanding of the monitoring efforts in place at the time of the Camp Fire, analysis of the air quality data collected, and an overview of the impacts on public health. Proposed additional research efforts on the impacts of short- and long-term smoke exposure, and increased monitoring plans and needs are also discussed.

¹ www.fire.ca.gov/incidents/2018/11/8/camp-fire/, accessed 4/13/2020.

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Figure 1: Camp Fire Smoke Impacts – November 16, 2018²



Monitoring and Air Quality

Monitoring

During the 2018 Camp Fire in Paradise, California, all of the Butte County ambient air monitoring sites were in operation. The California Air Resources Board (CARB) operates monitoring stations in Chico (carbon monoxide [CO], nitrogen dioxide [NO₂], ozone, particulate matter [PM₁₀ and PM_{2.5}], and toxics), Gridley (PM_{2.5}), and Paradise (ozone and PM_{2.5}).

Two monitoring sites located in Paradise did not collect data during the Camp Fire; the ozone monitor at the Paradise Airport site and the PM monitor at the Paradise-Theater site ceased operations

when Pacific Gas and Electric Company (PG&E) cut power to the area on November 8. A filter-based monitor at the Chico site, 15 miles away from the Camp Fire, continued to operate, collecting samples on November 10, 2018, and November 16, 2018, (on an every 6th day collection schedule). The Chico site also collected data using a specialized

speciation sampler, which uses filters to collect samples of particulate matter. The filters are later processed in a laboratory to determine the chemical composition of the particulate matter. Among other details, speciation helps quantify PM_{2.5} mass, trace elements, wood smoke tracers, carbon, and ions.³

Air Quality

Particulate matter increased at most sites in Northern California west and south of the Camp Fire (Figure 2). The highest PM concentrations were recorded in Chico, the closest monitoring site to the Camp Fire and in the direct path of the smoke plumes (Figure 3). The average PM concentrations at selected monitoring sites showed significant increases when compared to both historical (2010 to 2017) November averages and to the period in which the Camp Fire occurred (Figure 3; Tables 2 and 3). From November 8 to November 22, PM_{2.5} increased by more than 300 percent from historical

averages.

3 The Chico speciation sampler shut down as designed to protect the equipment on two occasions due to particulate loading from the smoke that exceeded designated safety limits. As a result, the sampling durations on November 10 and November 16 were less than 24 hours, as required by USEPA for submission to the Air Quality System (AQS) database. However, the speciation sampler was able to maintain the required flow rates for more than 17 hours on November 10 and more than 13 hours on November 16. While that data could not be formally reported to AQS, it was sufficient for CARB staff to analyze. All laboratory quality control criteria, as specified in CARB's standard operating procedures (SOP), were determined to be within acceptable limits. All other valid data collected from the Butte County air monitoring sites has been reported to AQS.

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Figure 2: Daily $\text{pm}_{2.5}$ CoNCeNtratioNS – November 2018 Coastal

[illegible]

Sacramento Valley

[illegible]

Figure 3: November monthly average CoNCeNtratioNS at SeleCteD SiteS – November 2018 CompareD to average of NovemberS 2010-2017

table 1: maximum pm CoNCeNtrationS at Four SeleCteD SiteS

	PM _{2.5} Concentrations at Year Selected Once	
Chico	412	11/16/18
Modesto	190	11/16/18
Sacramento-Del Paso	228	11/15/18
San Jose	134	11/15/18

table 2: CompariSoN oF pm CoNCeNtratioNS at SeleCteD SiteS to hiStoriCal averageS

November 1 - 30	16	37
November 8 - 22	15	64

table 3: iNCreaSe iN pm CoNCeNtratioNS aND perCeNtageS From hiStoriCal averageS

November 1 - 30	21	137
November 8 - 22	49	315

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Data Comparison - Camp Fire and Summer Wildfires

Data from the Camp Fire was compared with data collected during the Carr, Mendocino Complex, and Ferguson fires in the summer of 2018 (Table 4). The Camp Fire, with almost 19,000 structures burned, showed characteristics not seen in the other, more traditional wildfires that burned mostly vegetation.

table 4: SeleCteD wilDFireS iN CaliForNia iN 2018 For Data CompariSoN

Camp Fire	Butte	11/8/18-11/25/18	150,000	18,800
Carr Fire	Shasta, Trinity	7/23/18-8/30/18	230,000	1,600
Mendocino Complex (Ranch and River Fires)	Colusa, Glenn, Lake, Mendocino	7/27/18-9/18/18	460,000	~250
Ferguson Fire	Mariposa	7/13/18-8/19/18	97,000	<10

During the 2018 summer wildfires and the Camp Fire, Chico showed the highest concentrations of PM_{2.5} of the four selected speciation monitoring sites. This is likely due to the fact that Chico was the closest of the speciation monitors to three of the four fires evaluated in this report. In Chico, the PM_{2.5} concentration increased by nine times above the average during the summer wildfires, and almost 100 times above the average during the Camp Fire.

Particulate Matter

Particulate matter is the principal pollutant of concern with wildfire smoke, particularly PM_{2.5} (with diameters of 2.5 micrometers, far smaller than the diameter of a human hair), which can be inhaled into the lungs. PM_{2.5} is a complex mixture of solids and aerosols that can contain a myriad of chemical compounds, including metals, organic and elemental carbon, potassium, organic matter and geologic material, and potentially ammonium nitrate and ammonium sulfate.

During the 2018 summer wildfires and the Camp Fire, Chico showed the highest concentrations of PM_{2.5} of the four selected speciation monitoring sites. In Chico, the PM_{2.5} concentration increased by nine times above the average during the summer wildfires, and almost 100 times above the average during the Camp Fire.

PM_{2.5} contributed by the summer wildfires continued until the end of September 2018. The PM_{2.5} contributed by the Camp Fire continued until the end of November 2018. The slightly elevated PM_{2.5} seen in December 2018 and early January 2019 could be from lingering smoke and ash from the Camp Fire, the high PM levels typical of that time of year (due to woodstove use), or both.

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Figure 4: CompariSoNS oF pM_{2.5} CoNCeNtratioNS

Metals

Metal concentrations were higher during the Camp Fire, particularly lead (Pb) and zinc (Zn), which increased dramatically (Figure 5). Other metals including calcium (Ca), iron (Fe), and manganese (Mn) were elevated during all the wildfires studied. The metal contributions to PM_{2.5} speciation data from the Camp Fire continued until the end of November 2018.

Among the key findings:

- The San Jose monitoring site showed the highest concentrations of both calcium and iron during the Camp Fire; concentrations of the two metals increased to about twice the levels seen in the days prior to the event.
- Manganese and lead were highest at the Chico monitoring site; concentrations increased by more than four times and 50 times above the average, respectively.
- Zinc was highest at the Modesto site, which already had slightly higher zinc concentrations; concentrations increased by more than 20 times the average at Modesto and 33 times the average at Chico.

Potential effects of these elevated levels are discussed in the Health Impacts section of this report.

Figure 5: CoNCeNtratioN oF metalS iN pM_{2.5} betweeN JaNuary 2018 aND marCh 2019 Lead (Pb)

Zinc (Zn)

Manganese (Mn)

Calcium (Ca)

Chemical Species

Organic carbon (OC) and potassium ions (K^+) are known chemical tracers for biomass burning and can help track the influence and intensity of wildfire smoke. All four selected sites showed elevated concentrations of these species during both the summer wildfires and the Camp Fire, with concentrations during the Camp Fire much higher than during the summer wildfires (Figure 6). The Chico site recorded concentrations of organic carbon and potassium ions of about 36 times and 24 times higher than normal, respectively. The increased concentrations of organic carbon and potassium ions continued until the end of November 2018, when the Camp Fire was fully contained.

Figure 6: $pm_{2.5}$ organic Carbon and potassium ions Concentrations between January 2018 and March 2019

Organic carbon (OC)

Potassium ions (K^+)

Other chemical species collected from samples taken during the Camp Fire and the summer wildfires were also compared for the selected monitoring sites. In general, organic matter contributes far less than ammonium sulfate and ammonium nitrate to ambient PM_{2.5} concentrations in California.⁴ The analysis of the Camp Fire data, however, as well as that from the summer wildfires, showed the

4 CARB, 2015 ARB Review of San Joaquin Valley PM_{2.5} State Implementation Plan, Appendix A. Weight of Evidence Analysis, page A-16, arb.ca.gov/resources/documents/2015-and-2008-san-joaquin-valley-pm25-attainment-plans, last accessed 7/20/20.

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majority of PM_{2.5} was composed of organic matter, with lesser contributions from elemental carbon, ammonium nitrate, ammonium sulfate, geologic materials, and trace elements. The differences between the wildfires, however, were not as clearly seen as in the figures above (Figures 4 through 6). These difference could be due to traditional seasonal patterns in chemical formations, winter versus summer, for example, or even monitor sampling schedule differences (Figure 7). The data is presented here, but the differences are not considered significant enough to draw any conclusions regarding the differences between the Camp Fire and the summer wildfires.

Figure 7: CompariSoNS oF pm_{2.5} CompoSitionS DuriNg wilDFireS iN 2018 (perCeNt oF total pm_{2.5} CompoSitionS ± StaNDarD error)
Chico (sampling days: Carr: 7 ; Camp: 3; Mendocino: 9)

At Chico, the PM_{2.5} components on November 10 (17.7 hour sampling time) & 16 (13.0 hour sampling time) were included.

Sacramento-Del Paso (sampling days: Carr: 13; Camp: 6; Mendocino: 18)

San Jose (sampling days: Carr: 13; Camp: 6; Mendocino: 18)

Modesto (sampling days: Carr: 7; Camp: 1; Mendocino: 9; Ferguson: 3)

Health Impacts

As previously noted, wildfires produce complex mixtures of potentially harmful air pollutants, including particulate matter (PM) which is comprised of increased levels of metals, toxic air

contaminants, and other chemical compounds. Smoke from any type of fire (e.g. forest, brush, crop, structure, tires, waste, or wood burning) is a complex mixture of tiny solid, liquid, and gas particles and chemicals produced by incomplete burning of carbon-containing materials. More specifically, smoke from structural fires, such as residential, commercial, and industrial fires, contains more than a hundred dangerous toxins and poisonous gases, including carbon monoxide and hydrogen cyanide. Carcinogenic compounds from the burning of household materials within structures, such as benzo(a) pyrene, toxic dioxin compounds, and benzene, have been reported.⁵ PM_{2.5} can be inhaled into the deepest recesses of the lungs and the association between PM_{2.5} and heart and lung effects is well documented in scientific literature.

Wildfire Smoke

Adverse health effects from exposure to wildfire smoke include increases in severity of respiratory problems, such as asthma, increases in emergency department visits for heart attacks and strokes, and increased risk of premature death.⁶ The U.S. EPA has estimated that short-term (days to weeks) exposure to wildfire-related PM_{2.5} results in between 1,500 and 2,500 deaths annually.⁷ During the 2007 San Diego wildfires, emergency department visits increased by 34 percent for respiratory conditions in general and by 112 percent for asthma in particular, compared to pre-wildfire periods.⁸ During the 2003 heavy wildfire smoke conditions in Southern California, there was a 34 percent increase in asthma hospital admissions.⁹

There is limited information on the potential health impacts due to long-term repeated exposure to wildfire smoke over multiple seasons.¹⁰ Since wildfire smoke contains PM_{2.5} and PM₁₀, the long term health impacts from wildfire smoke are expected to be in line with the effects from those pollutants.¹¹

Smoke from Structural Fires

Since wildfires, and the Camp Fire in particular, can also burn structures, such as homes, associated buildings, and vehicles occupational studies can shed light on the long-term health impacts. For example, in a long-term study of U.S. firefighters, investigators reported an excess of lung, digestive, and urinary cancers, and a rare cancer of the lung - mesothelioma (associated with asbestos exposure). Recently, the investigators reported excess leukemia and excess chronic obstructive pulmonary disease (COPD)-related deaths associated with the amount of time spent at fires.¹² Some of these long-term health impacts, such as heart disease, reduced lung function, and lung cancer, are

5 Blais et al., *Fire Technology* 56:489-514, 2020; Van der Veen and Boer, *Chemosphere* 88:1119-1153, 2012. 6

Black et al., *Environ Toxicol Pharmacol* 55: 186-195, 2017.

7 Fann et al., (2018). The health impacts and economic value of wildland fire episodes in the US: 2008-2012. *Science of the total environment*, 610, 802-809.

8 Hutchinson et al., *PLoS Med.* 15(7): e1002601, 2018.

9 Delfino et al., *Occup. Environ. Med.* 66:189-97, 2009.

10 U.S. EPA (2019). *Wildfire Smoke: A Guide for Public Health Officials*. Officials, first published in 2002, Revised 2019. EPA-452/R-19-901 August 2029. Available at: [airnow.gov/publications/wildfire-smoke-guide/wildfire-smoke-a-guide-for-public-health-officials](https://www.airnow.gov/publications/wildfire-smoke-guide/wildfire-smoke-a-guide-for-public-health-officials)

11 Booze et al., *Journal of Occupational and Environmental Hygiene* 1: 296-305, 2004; Coker et. al., *J Occup Environ Med.* 61(3): e91-e94, 2019; Smith et. al., *J Am Heart Assoc.* 18; 7(18): e009446, 2018. Finlay et.al., *PLoS Curr.* 4:e4f959951cce2c, 2012.

impacts also seen in populations exposed to $PM_{2.5}$ and PM_{10} .^{13,14}

Among the many compounds present in structures are flame retardants, commonly used in consumer products, such as furniture, textiles, building materials, and electronics. One chemical group, called phosphorus flame retardants, has shown negative hormonal effects in laboratory tests. Further, these compounds are associated with increased hyperactivity in children.¹⁵ Given these many potential sources of these compounds, and considering the byproducts of the combustion of wood, plastics, and other chemicals released from burning structures, it is clear that the tiny particles, gases and chemicals in smoke generated from structure fires are hazardous to human health.

Health Concerns Regarding Wildfire Ash

Wildfire ash is made up of both large and small particles (dust, dirt, and soot) left behind after a fire. Ash deposited on surfaces indoors and outdoors can be inhaled if it becomes airborne during clean up, and exposure to ash and other products of the fire can irritate the eyes, nose, or skin and cause coughing and other health effects.^{16,17} Ash inhaled deeply into lungs may trigger an asthma attack or make it difficult to breathe for those with other respiratory diseases. In general, ash from burned structures is considered more hazardous than forest ash. Because of these ongoing concerns regarding the health effects associated with ash exposures, additional research is needed to assess health risks associated with cleanup efforts, as well as resuspension of ash deposited indoors.^{18,19}

Specific Pollutants

Fine Particulate Matter ($PM_{2.5}$)

Long-term exposure to fine particulate matter has been linked to a wide range of human health effects, such as respiratory and heart-related illnesses and hospitalizations, adverse brain effects, depression, memory loss, learning disorders, reduced lung function development in children, and premature death. With respect to wildfire $PM_{2.5}$ and smoke, several studies have shown strong associations between exposure and increasing severity of asthma, other respiratory disease, such as COPD, and an increase in inflammation or infections, including bronchitis and pneumonia, emergency department visits, and hospital admissions.^{20,21} Available studies link short term exposures to $PM_{2.5}$ with increased risk of heart disease and death. The short-term spikes in particulate matter from the Camp Fire and other wildfires in California are similar to some of the pollution levels seen in other countries such as China and India that experience high levels of

13 U.S. EPA. (2019). Integrated Science Assessment for Particulate Matter. Research Triangle Park, NC. Center for Public Health and Environmental Assessment, Office of Research and Development. U.S. EPA. EPA/600/R-19/188 December 2019.

14 Adetona et al., *Inhal Toxicol* 28:3, 95-1, 2016.

15 Xu et al., *Toxicology Res.* 6:63-72, 2017; Dishaw et. al., *Current Opinion in Pharm.* 19:125-133, 2014; Castorina et al., *Chemosphere* 189:574-580, 2017.

16 Kjellstrom et al., *Air and Water Pollution: Burden and Strategies for Control*. In: *Disease Control Priorities in Developing Countries: Chapter 43*, 2nd edition. Jamison DT, Breman JG, Measham AR, et al., editors. Washington (DC): The International Bank for Reconstruction and Development / The World Bank; New York: Oxford University Press; 2006.;

17 Gonino et. al., *Sci Total Environ.* 665:226-234, 2019; Burton et. al. *Plos One* 11:e0153372, 2016; Alexakis et al., *Environ. Research* 183:109153, 2020; Re et. al., *Ecology and Environ. Safety* 194:110361, 2020. 18 Burton et. al. *Plos One* 11:e0153372, 2016.

19 Stein et al., *Environ Toxicol Chem* 31(11):2625-38, 2012.

20 Youssouf et al., *Int J. Environ Res Public Health* 11:11772-11804, 2014; Liu et al., *Environ. Res.* 136:12-132, 2015; Reid et al., *Environ. Health Perspectives.* 124:1334-1343, 2016.

21 U.S. EPA. (2019). Integrated Science Assessment for Particulate Matter. Research Triangle Park, NC. Center for Public Health and Environmental Assessment, Office of Research and Development. U.S. EPA. EPA/600/R-19/188 December 2019.

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industrial and mobile source pollution. Both countries show subsequent increases in respiratory diseases and infections, and chronic heart and lung disease, resulting in increased medical visits, hospital admissions, and risk of death.^{22,23,24}

High levels of particulate matter in wildfire smoke posed serious health risks to residents of Butte County, as well as other areas affected by the Camp Fire. On some days, for example, the PM_{2.5} levels in Chico far exceeded the national 24-hour standard of 35 micrograms per cubic meter ($\mu\text{g}/\text{m}^3$). Inhaling smoke from wildfires for a short time can acutely increase the severity of asthma and COPD.²⁵ Over the entirety of the Camp Fire period, the average concentration of PM_{2.5} at the sites shown in Figure 2 was $64 \mu\text{g}/\text{m}^3$, a level almost twice the 24-hour standard, ranging from 20 to $144 \mu\text{g}/\text{m}^3$. Chico was especially hard hit with the highest period average of $144 \mu\text{g}/\text{m}^3$ and a maximum high daily-average of $412 \mu\text{g}/\text{m}^3$, almost 12 times the 24-hour standard.²⁶

While more research is needed to specifically study health impacts from wildfire smoke, these high levels of particle pollution certainly had short-term effects on individuals with respiratory and heart illnesses and likely also contributed to long-term health effects.

Metals, Organic Carbon, Ammonium Nitrate, and Ammonium Sulfate

Particulate matter from wildfire is a complex mixture that typically contains elements that are highly toxic. In the following sections, information on potential health effects is provided for the metals, organic carbon, ammonium nitrate, and ammonium sulfate monitored in the Camp Fire as well as during the Carr, Mendocino, and Ferguson fires.

Lead (Pb)

CARB has led efforts to reduce lead exposures, including cleaner fuels regulations, and identified lead as a "toxic air contaminant" in 1997.²⁷ The EPA set the National Ambient Air Quality Standards (NAAQS) for lead at $0.15 \mu\text{g}/\text{m}^3$, using a 3-month average concentration. The NAAQS for lead is set by calculating the monthly average of the lead concentrations at each monitor and averaging that value with the prior two months' average concentrations. The NAAQS standard is based on health effects that include adverse brain development in children and high blood pressure, and reproductive effects, and cancer in adults. Infants and young children are especially sensitive to low levels of lead that are known to cause behavioral changes and learning deficits.

During the Camp Fire, for a period of 17 hours on November 10th, the ambient lead concentration was elevated to an average of $0.13 \mu\text{g}/\text{m}^3$. Levels of PM_{2.5} recorded by the parallel filter sampler climbed dramatically after the shutdown of the over-loaded speciation sampler in 17 hours.

Estimating the lead levels from the 17 hours of sampling to a 24-hour sampling time, the potential daily lead level would be approximately $0.17 \mu\text{g}/\text{m}^3$ for the PM_{2.5} sample. While this higher level of

lead was only seen for one day and therefore cannot be compared to the national 3-month average standard, the peak level of lead for the Camp Fire is concerning since lead is considered a toxic

22 Xu et al., PLoS One 11(4): e0153099, 2016.

23 WHO (2006). WHO Air quality guidelines for particulate matter, ozone, nitrogen dioxide and sulfur dioxide. Summary of risk assessment. WHO WHO/SDE/PHE/OEH/06.02 200. 20. Avenue Appia, 1211 Geneva 27, Switzerland. Global update 2005. Available at: apps.who.int/iris/bitstream/handle/10665/69477/WHO_SDE_PHE_OEH_06.02_eng.pdf?sequence=1

24 Rajak et al., Int J Environ Health Res. 1-25, 2019.

25 Black et al., Environ Toxicol Pharmacol 55: 186–195, 2017; Liu et al., Environ. Res. 136:12-132, 2015. 26 U.S. EPA. (2020). Policy Assessment for the Review of the Particulate Matter National Ambient Air Quality Standards. Research Triangle Park, NC. Office of Air Quality Planning and Standards, Health and Environmental Impacts Division. U.S. EPA. EPA-452/R-20-002 January 2020. Available at: epa.gov/sites/production/files/2020-01/documents/final_policy_assessment_for_the_review_of_the_pm_naaqs_01-2020.pdf

27 California Air Resources Board (CARB) Lead & Health, arb.ca.gov/resources/lead-and-health; World Health Organization (WHO) Lead Poisoning and Health, August 2019.; U.S. EPA. (2014). Policy Assessment for the Review of the Lead National Ambient Air Quality Standards. Research Triangle Park, NC. Office of Air Quality Planning and Standards, Health and Environmental Impacts Division. U.S. EPA. EPA-452/R-14-001 May 2014. Available at: epa.gov/ttn/naaqs/standards/pb/data/140501_pa_pb_fin.pdf

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air contaminant that accumulates in human bodies, especially children, and any increased levels of exposure could be harmful.²⁸

Manganese (Mn)

The short-term exposure to manganese from the wildfires is unlikely to pose health risks to the residents of Chico or those in other areas impacted by the wildfire smoke. During the Camp Fire, the ambient manganese concentration in Chico, the highest site, was 0.013 µg/m³, lower than U.S. EPA reference concentrations of 0.05 µg/m³ or the California Office of Environmental Health Hazard Assessment (OEHHA) 8hour manganese reference exposure level value of 0.17 µg/m³.^{29,30}

Zinc (Zn)

Due to the lack of information on the health impacts of zinc, the health effects of short-term exposure during the Camp Fire could not be determined. Ambient zinc concentrations increased to 0.36 and 0.46 µg/m³ in Chico and Modesto, respectively. The U.S. EPA does not set zinc reference concentrations for inhalation exposure and sufficient data and literature on exposure to zinc compounds was unavailable.³¹

Organic Carbon (OC) and Associated Organic Compounds

The highest organic carbon concentrations during the Camp Fire were reported in the Chico area. The speciation sampler at Chico detected peak concentrations of 111 µg/m³, almost five times the peak concentrations (21 µg/m³) recorded at the same site during the Carr, Mendocino, or Ferguson fires. The average organic carbon concentration at Chico during the Camp fire (92 µg/m³ for two days of sampling) was approximately ten times higher than what was recorded during the summer wildfires.

The organic carbon component of PM_{2.5} from wildfires and biomass combustion accounts for approximately 50 to 67 percent of the PM mass, is a complex chemical mixture, and contains numerous toxic compounds. One example of a toxic class of compounds present in organic carbon in wildfires is polycyclic aromatic hydrocarbons (PAHs).³² Many PAHs, or their chemical derivatives, can cause DNA damage and cancer.³³ These compounds can also cause inflammation that can damage the lungs and other organs, such as the heart.³⁴ Additional toxic compounds present in

organic carbon from wildfires, especially from burning of structures, include plasticizers, flame retardants, metals, and aldehydes.³⁵ To our knowledge, the levels of PAHs and these additional toxic compounds were not measured during the Camp Fire. The level of organic carbon measured in the Camp Fire can potentially result in increased health risks since organic carbon is a principal

28 U.S. EPA (2013) Integrated Science Assessment (ISA) for Lead. Research Triangle Park, NC. National Center for Environmental Assessment-RTP Division, Office of Research and Development, U.S. EPA/600/R-10/075F June 2013, Errata Sheet created 5/12/2014. Available at: cfpub.epa.gov/ncea/isa/recordisplay.cfm?deid=255721 29 U.S. EPA. (2012). Inhalation Health Effect Reference Values (IHERV) for Manganese (CASRN 7439-96-5 – Manganese) and Compounds (CASRN 1344-43-0; 1317-35-7; and 1129-60-5). Research Triangle Park, NC. Office of Research and Development, National Center for Environmental Assessment. U.S. EPA. EPA/600/R-12/047F5. December 2012. Available at: nepis.epa.gov/Exe/ZyPDF.cgi/P100KJKC.PDF?Dockey=P100KJKC.PDF 30 CalEPA OEHHa (2014). Manganese & Manganese Compounds (CAS Number 7439-96-5). Technical Support Document for Noncancer RELs, Appendix D1. CalEPA OEHHa. December 2008 Updated July 2014. Available at: oehha.ca.gov/media/downloads/cnr/appendixd1final.pdf 31 U.S. EPA. (2005). Toxicological review of Zn and compounds (CAS No. 7440-66-6) In Support of Summary Information on the Integrated Risk Information System (IRIS). Washington D.C. National Center for Environmental Assessment. U.S. EPA. E. PA/635/R-05/002 July 2005. Available at: cfpub.epa.gov/ncea/iris/iris_documents/documents/toxreviews/0426tr.pdf 32 Navarro et al., J. Occup. Environ. Hygiene 16(11): 735-744, 2019. 33 Kim et al. Environ. Health Perspectives. 017011-1-14, 2018; World Health Organization (WHO). IARC Monographs on the Evaluation of Carcinogenic Risk to Humans. Volume 95, 2010; Agency for Toxic Substances and Disease Registry (ATSDR) Toxicity of Polycyclic Aromatic Hydrocarbons (PAHs), 2009. 34 Kim et al. Environ. Health Perspectives. 017011-1-14, 2018 Liu et al., Environ. Res. 136:120-132, 2015. 35 Hand et al. Adv. Meteorology article ID 367674 doi 10.1155/2013/367674. 2013; Vincente et al. Environ. Sci. 53:122-131, 2017; Simoneit, et al., Environ. Sci. Technol. 39:6961-6970, 2005.

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component of PM_{2.5} and contains numerous toxic compounds that can cause potential acute lung and heart damage and chronic health effects, such as cancer.

Ammonium Nitrate and Ammonium Sulfate

Adverse health effects evaluated in various studies for short-term nitrate and sulfate exposure include reduced lung performance and function.³⁶ Ammonium nitrate and ammonium sulfate are not generally major components of wildfire smoke. The levels of both during the peak days of the Camp Fire appear to be well below the levels that would cause adverse health effects from short-term exposure.

Health Effects Summary

The Camp Fire had very unique attributes compared to other, more vegetation-based wildfires, including a very high level of structural burning that resulted in spikes in toxic emissions that added to the burden of illness. Based on published studies, children and the elderly would have been the most susceptible to these effects.³⁷ Growing epidemiological evidence suggests that exposure to wildfire PM has been associated with a range of adverse human health effects, especially heart disease and premature death.

During the Camp Fire, the complex mixture of wildfire smoke and the materials burned, including structures and their contents (such as motor vehicles), make exact estimations of health effects challenging. In order to better understand the health effects of the Camp Fire and future wildfire incidents, additional research is needed.

Areas where CARB is engaged in, or recommending, additional research on this subject include both short- and long-term health effects of wildfire smoke, as well as the effects of certain toxic components of smoke, as outlined in the next section of this report.

36 Kleinman et al., Environ. Res. 21:313-26, 1980.; Utell et al., J. Appl Physiology 46:189-196, 1979.;
arb.ca.gov/resources/sulfate-and-health.

37 Liu et al., Environ. Res. 136:12-132, 2015; Reid et al., Environ. Health Perspectives. 124:1334-1343, 2016;
Wettstein, et al., J. Am. Heart Assoc. 7(8): e007492, 2018; McCoy et al., Applied Econ. Letters, 2020.

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Going Forward

Health Effects Research

Further research is needed on the health impacts of wildfire smoke, both from traditional wildfires that burn primarily vegetation and from those that burn large numbers of structures, cars, and trucks. The following topics will require further investigation.

Complex mixtures of smoke

Future measurements and research should study more toxic components in the complex mixture of wildfire smoke and their combined effects to provide a clear understanding of their potential for acute and chronic health outcomes to the public. For example, the PAHs and persistent chemicals,

such as flame retardant compounds used in building materials, furniture, and vehicles, when combusted could produce additional toxic compounds. Certain flame retardant chemicals, especially phosphorus flame retardants (PFRs), cause DNA damage. These compounds are very similar in chemical structure to organophosphate pesticides that are highly toxic and cause nerve damage. However, the toxicity of combusted PFRs is unknown.

High short-term exposures

Most health effects of wildfire smoke are based on short-term exposure (i.e. over a few days to weeks). There have been consistent findings that exposure to wildfire smoke increases the severity of lung diseases, such as asthma and COPD. Smoke exposure from wildfires has also been associated with an increase in emergency department visits for heart disease and stroke.³⁸ Future studies should provide deeper insights into oxidative stress damage during wildfires and report changes in respiratory symptoms and healthcare-seeking behavior after wildfires. The chemical and physical components of wildfire smoke that impact lung and heart health should be considered and measurements of ultrafine PM and their association with health effects would be prudent to study. CARB-funded investigators are currently studying the associations between short-term exposure to wildfire PM_{2.5} and loss of work days and increases in asthma attacks.

Repeated or long-term exposure to wildfires

It is equally important to study the health effects people may experience from cumulative exposures, multi-day exposures, or multiple consecutive fire seasons. Long-term exposure to wildfires that burn a mixture of natural and synthetic materials may contribute to an elevated overall lifetime risk for heart disease, lung disease, and cancer. Future studies concerning these health effects on the general population and their association with specific chemical and physical components of wildfire smoke should be considered, along with effects on the brain (nervous system), and leukemia and other cancers (as reported among firefighters). Also, long-term effects on children's health including asthma should be considered. CARB is funding a long-term health effects study in which primates were naturally exposed during infancy to wildfires and continue to be monitored throughout adulthood.

Chemical-biological analysis of smoke

The toxic compounds of wildfire smoke can be analyzed chemically, and their toxicity measured using biological analysis. The chemical analyses in combination with biological analyses could help develop a screening tool for evaluating potential short-term and long-term health effects

38 Reid et al., Environ. Health Perspectives. 124:1334-1343, 2016; Wettstein, et al., J. Am. Heart Assoc. 7(8): e007492, 2018

Camp Fire Air Quality Data Analysis 17

and improve understanding of the biological pathways for toxic constituents of smoke to harm to the lungs, heart and other organs. This approach would provide important information to assess exposure, toxicity, and rapid analyses of the potential health hazard risks from wildfire smoke. Priority should be given to research on exposure and health risks to vulnerable and highly impacted communities.

Modeling

Modeling the transport and dispersion of smoke and toxic emissions from burning structures and motor vehicles is a useful tool for estimating the impact of the Camp Fire on regional air quality and exposure, and can help fill in the spatial gaps between measurements in the surface monitoring network. Estimating emissions from wildfires, and the chemical and physical characteristics of those emissions, is inherently uncertain since the fire itself precludes direct measurement of the emissions. To account for some of this uncertainty, CARB's modeling efforts will focus on utilizing multiple modeling platforms, emissions estimates, and plume rise calculations and will evaluate the ability of the modeling systems to capture the magnitude and spatial/temporal variations observed in the surface monitoring network. When available and applicable, CARB staff will also compare modeling output to satellite products and community based sensor networks.

Monitoring

Over the next couple of years, CARB plans to expand its air quality monitoring efforts during select wildfire events to better understand the air quality impacts. The data collected will help with exposure assessments and improve overall messaging to the public. CARB's air monitoring efforts will be determined by the wildfire impacts and staff's ability to collect air quality information at existing monitoring sites (see Appendix C). CARB is proposing one to two sampling events per year that cover one or potentially a combination of wildfire scenarios based on recent wildfire history. Scenarios include northern foothill community fires that threaten structures and have smoke impacts to local, Sacramento and San Joaquin Valley, and Bay Area communities; coastal and Valley fires that threaten structures and impact Central Valley and Bay Area communities; and, southern mountain and canyon community fires threatening structures that impact desert areas and the Los Angeles and San Diego basins.

Although each scenario can be different, the response will be targeted using existing air monitoring stations when available and in proximity to the wildfire impacts, and deploying portable samplers. Air monitoring stations in direct line of wildfire impacts may have their instrument sampling frequencies modified to accommodate particulate matter loading (e.g. from 24 hours to 8 hour sampling events) in order to capture quality data. In areas where air monitoring stations are not located and public impacts are projected, portable samplers will be deployed to capture particulate matter and some toxic air contaminants. Sampling durations will be set to appropriately capture quality data. Deployments will be conducted in parallel with any California Office of Emergency Services (CalOES) "Mission Task" that requests environmental beta-attenuation mass (EBAM) monitor deployments for emergency Air Quality Index (AQI) determinations. All wildfire monitoring and laboratory activities will be based on available resources and every attempt will be made to minimize turn-around times on data reporting.

Numerous nonregulatory, low-cost sensors were in operation throughout Northern California during the Camp Fire. These sensors were deployed by schools, businesses, and individuals and helped monitor immediate smoke impacts. U.S. EPA has begun a project to incorporate these sensors onto its AirNow website in a pilot program launched in August 2020 and incorporated into EPA's current mapping software.

Appendix A: Resources

Additional information regarding wildfires, monitoring, air quality, and health risks can be found in the following documents:

California Air Resources Board

Wildfires

arb.ca.gov/our-work/programs/wildfires

Incident Air Monitoring

arb.ca.gov/our-work/programs/incident-air-monitoring

Air Quality and Meteorological Information System

arb.ca.gov/aqmis2/aqmis2.php

Protecting Yourself from Wildfire Smoke

arb.ca.gov/protecting-yourself-wildfire-smoke

California Department of Public Health

Wildfire Smoke: Considerations for California's Public Health Officials (CDPH 2019)

[cdph.ca.gov/Programs/EPO/CDPH%20Document%20Library/Wildfire%20Smoke%20Considerations%20for%20California's%20Public%20Health%20Officials%20\(August%202019\)_508.pdf](http://cdph.ca.gov/Programs/EPO/CDPH%20Document%20Library/Wildfire%20Smoke%20Considerations%20for%20California's%20Public%20Health%20Officials%20(August%202019)_508.pdf)

U.S. Environmental Protection Agency

AirNow – Fire Information

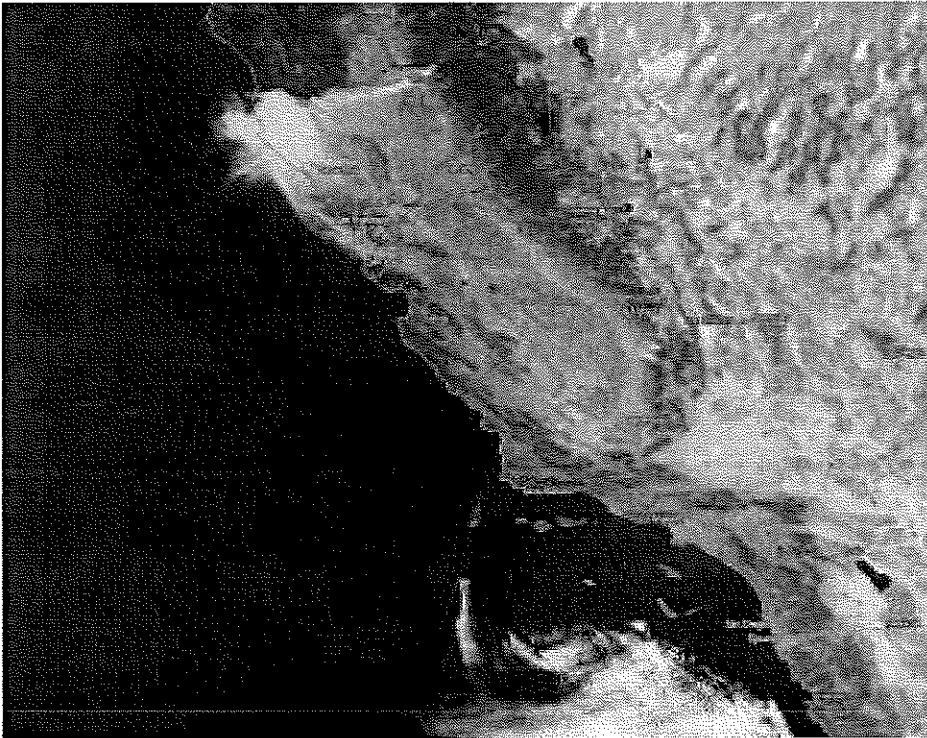
airnow.gov/fires/

Wildfire Smoke A guide for Public Health Officials (U.S. EPA 2019)

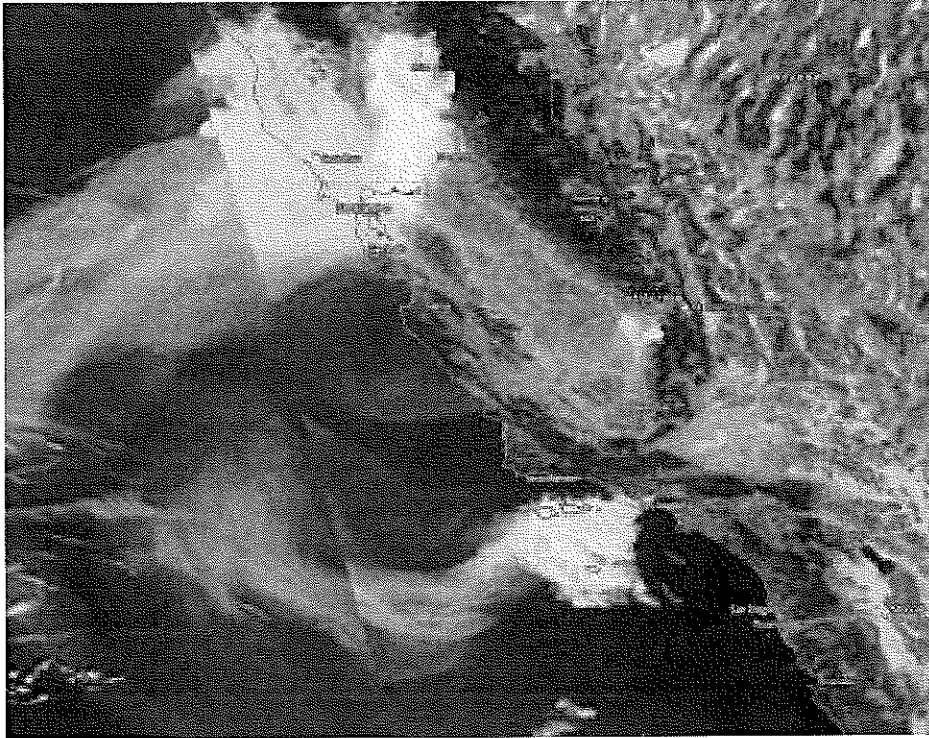
airnow.gov/publications/wildfire-smoke-guide/wildfire-smoke-a-guide-for-public-health-officials/

Appendix B: Satellite Imagery and PM_{2.5} AQI Values³⁹

November 8, 2018



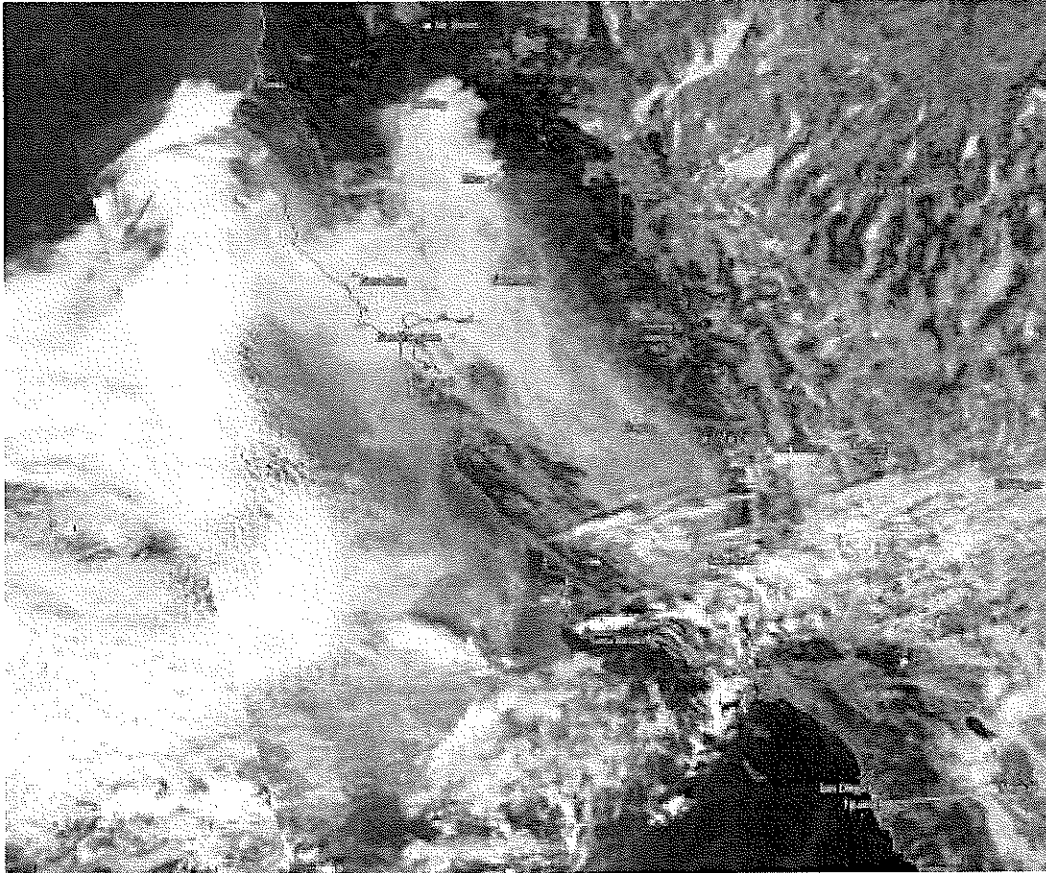
November 9, 2018



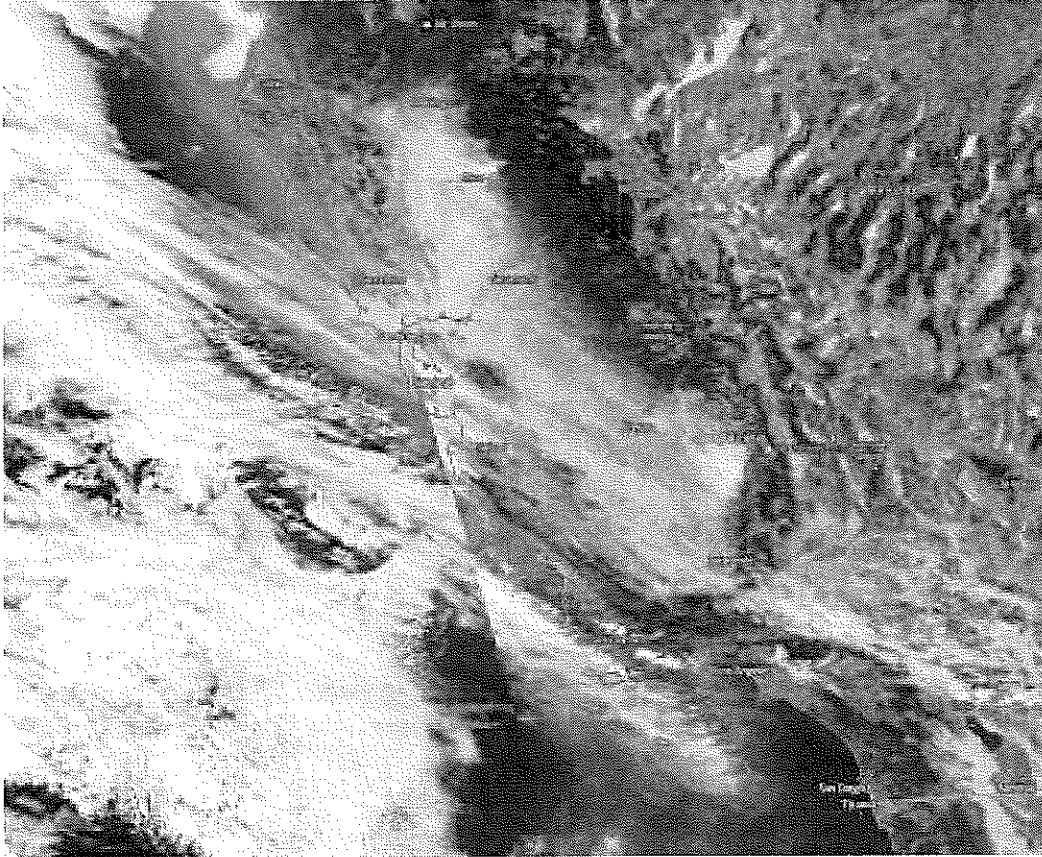
39 MODIS Terra and Aqua Corrected Reflectance (True Color) Satellite Images, NASA Worldview, *worldview.earthdata.nasa.gov*, downloaded 10/7/20

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November 16, 2018



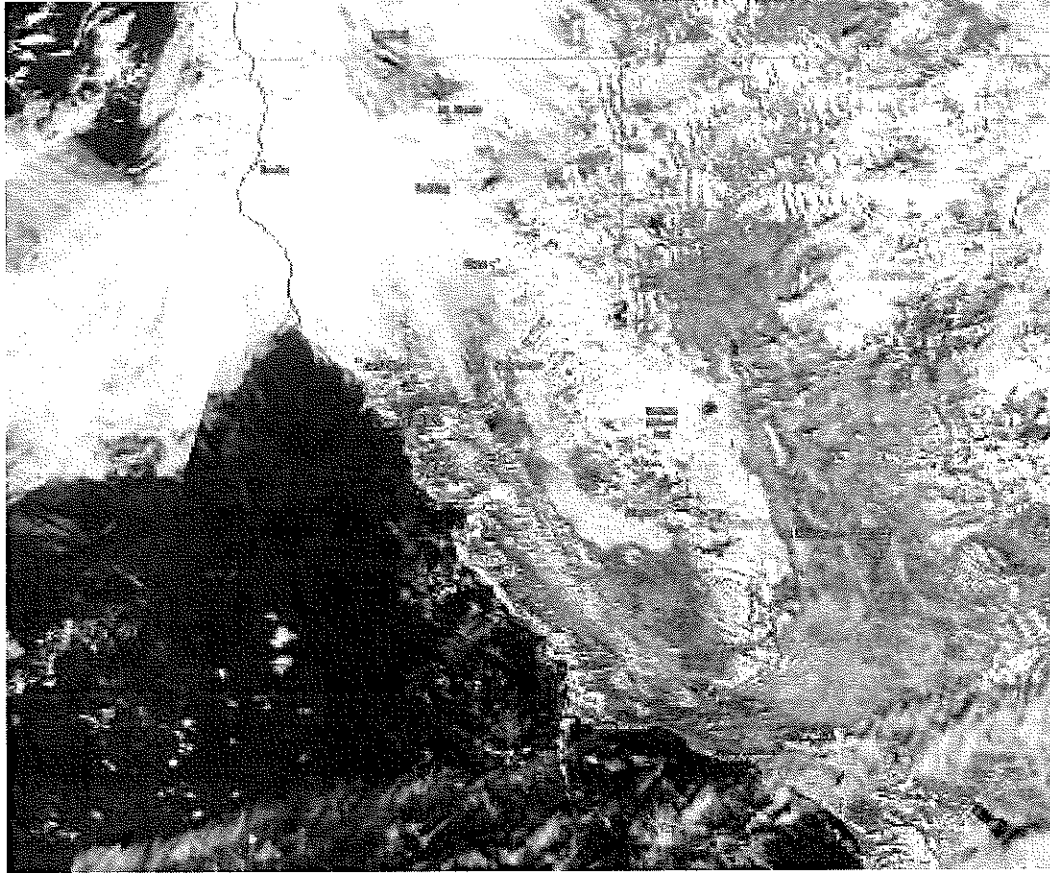
November 18, 2018



Camp Fire Air Quality Data

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November 22, 2018



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Air Quality Data Analysis

Appendix C: Toxics Air Monitoring Sites

California Air Resources Board 1001 I Street
P.O. Box 2815
Sacramento, CA 95812
(916) 323-2514
arb.ca.gov

Air Quality Planning & Science Division
Monitoring & Laboratory Division Research
Division
arb.ca.gov/our-work/programs/wildfires

30 October, 2022

Chico City Council members:

Andrew Coolidge, District 5
Mayor
andrew.coolidge@chicoca.gov

Dale Bennett
Councilmember, District 3
dale.bennett@chicoca.gov

Alex Brown
Councilmember, District 4
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Councilmember, District 1
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Kasey Reynolds
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kasey.reynolds@chicoca.gov

Deepika Tandon
Councilmember, District 7
deepika.tandon@chicoca.gov

Chico Unified School District
Superintendent Kelly Staley
kstaley@chicousd.org

From:

David Edward Martin, In Pro Se
3108 Aloha Lane
Chico, California 95973

Subject:

Environmental Contamination of Chico; Political Corruption. Child endangerment from toxins from the Camp Fire on Chico City Schools, Parks and public property and buildings.

It would appear that there is a criminal cover up of the environmental toxic legacy that contaminates Chico. This appears to stem from the protection of Butte County District Attorney Michael Ramsey and his extortion of P G and E that fostered the Camp Fire.

Butte County and Ramsey have received an excess of \$250 million dollars from P G and E even though clearly Ramsey was a mitigating factor in the causes of the fire.

Chico citizens have received none of this money but instead have had a significant increase in their utility bills. This increase was caused by Ramsey.

I have notified you of this before and you have ignored my report of environmental contamination as well as crimes committed by City of Chico employees.

The contamination of Chico is self-evident. For two weeks, toxic ash rained down on Chico from the Camp Fire. Everyone here witnessed it. In addition, smoke contaminated almost every building in Chico.

This toxic smoke and ash contained numerous metals, minerals and complex compounds. The California Air Resources Board completed a report that there were extreme levels of lead in the smoke from the Camp Fire. The document can be reviewed at this web address:

https://ww2.arb.ca.gov/sites/default/files/2021-07/Camp_Fire_report_July2021.pdf

The CARB report only tested for lead in the air. There were thousands of tons of ash contaminated with lead, asbestos and mercury that landed on almost every property in Chico.

I believe the cover up of this contamination is also motivated by the City Council trying to avoid liability for toxic clean up of city buildings and properties.

The toxic ash and smoke from the Camp Fire landed in Chico Creeks. The lengths of big and little Chico creeks means that they accumulated large amounts of toxic ash. This ash settled into the creek bed and soils where it remains now. It is stirred up with children and adults swimming and playing in the water.

I am unaware of any environmental law that states that if it lands in water the creek will clean it up to EPA standards. You, the Chico City Council are exposing young developing children to toxic contamination.

Likewise I am unaware of any EPA rule that allows a contaminated city to just say, well it rained and you cant see the ash anymore. DA Ramsey loves prosecuting citizens for asbestos and lead contamination but is ignoring his own contamination of Chico. You are assisting him.

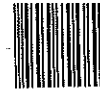
All that ash and smoke is injuring children. Lead is a known metal that causes brain damage in children. Asbestos is a known mineral that causes lung cancer. Why didn't DA Ramsey pursue environmental damages for Chico when he was prosecuting P G and E?

Chico City Schools are contaminated. Chico Parks are contaminated. Chico city buildings and grounds are contaminated. Your cover up of these dangerous conditions is harming Chico children and adults and should be actionable against you.

You are certainly endangering the health of children who swim in contamination, lay in it in the park, breathe it into their lungs around city buildings and stir it up on the playgrounds of Chico schools.

Has anyone contacted Enloe Hospital to determine if child cancer rates have increased. Does the city of Chico have any monitoring of the toxins deposited on Chico property and schools and any monitoring of unusual cancer rates, respiratory illnesses, birth defects, miscarriage or any other effects that could be caused by the environmental contamination of Chico?

D. MARTIN
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CHICO, CA 95973



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NORTHERN DISTRICT OF CALIFORNIA

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